



UNIVERSITY OF MINNESOTA  
EXTENSION



# BEEKEEPING IN NORTHERN CLIMATES WORKBOOK

Abbreviated Second Edition

University of Minnesota | Department of Entomology | Bee Lab | Bee Squad  
St. Paul, MN | [BeeLab.umn.edu](http://BeeLab.umn.edu)

# Acknowledgments

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# About the Beekeeping in Northern Climates Workbook

Consistent note taking is one predictor of successful beekeeping. It allows tracking of colony health and referring back to previous reports to solve problems in the colony. Our goal is to provide beekeepers with a workbook that facilitates guided note taking and training on how to inspect a colony.

## Pilot

This is our second pilot year of a workbook. In 2023, we distributed a full workbook that included seasonal tasks. We received and are incorporating feedback on the workbook. We will provide a full, updated workbook in the future.

In the meantime, we put together this shortened workbook that incorporates some of the training from the 2023 pilot workbook and some new information. New are the note taking sheets for an apiary, queen history, and individual colony inspections.

## Survey

We appreciate feedback so we can continue to improve the design. Provide feedback here to let us know that you are using the workbook, what is helpful, and what could be improved: [z.umn.edu/BeeWorkbookSurvey2024](https://z.umn.edu/BeeWorkbookSurvey2024)



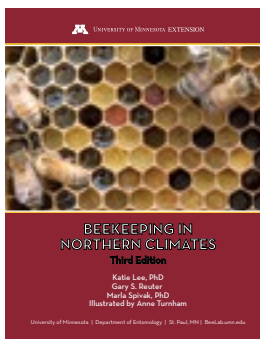
## Using this Workbook with a Mentor

If you are working with a beekeeping mentor, use your colony reports to share key information with your mentor throughout the bee season. We recommend that you send the following to your mentor:

1. A copy (or photo) of your colony inspection report at least once each month
2. A photo of a typical frame of brood every month
3. A copy (or photo) of varroa mite testing results and your varroa mite management plan
4. A photo of anything unusual that you think might be a sign of disease or queen issue

This will help your mentor spot signs of a failing queen, brood disease, varroa mite issues, and other colony health problems and guide you to timely solutions.

## Beekeeping in Northern Climates Manual



This workbook is an extension of the Beekeeping in Northern Climates Manual, Third Edition. If you do not have a manual, you can download a free PDF or order a hard copy from [beelab.umn.edu/manuals](https://beelab.umn.edu/manuals)



## Updates

For updates to the workbook, visit our website [z.umn.edu/HoneyBeeWorkbook](https://z.umn.edu/HoneyBeeWorkbook)  
Sign up for the listserv to be notified when the new workbook is ready.





# Using the Beekeeping in Northern Climates Workbook

## What's inside?

This workbook includes instruction that provides an overview of beekeeping, training, example inspection sheets, and background sheets you can print off and use in your colonies:

### Background

1. Four Principles of Productive Beekeeping
2. Goals for the Year
3. Equipment for a New Colony (Started as a Package Or Nuc)
4. Equipment Needed to Manage and Divide an Overwintered Hive

### Training





1. Rating Brood Pattern
2. Estimating Colony Population Size
3. Common Signs of Varroa Mite Damage
4. Monitoring for Varroa Mites: Tips and Tricks
5. Treating for Varroa Mites: When & What?
6. Tips for Taking Great Photos

### Record Keeping Sheets

1. Examples of Apiary Location, Colony ID Cards, Colony Inspection Report
2. Apiary Location, Colony ID Cards, Colony Inspection Report

## Four Principles of Productive Beekeeping

This workbook helps provides note taking pages that guide biology-based beekeeping practices following the four principles of productive beekeeping. These beekeeping principles will help you build a solid foundation for good management decisions. A healthy colony has all four of these factors.

<p><b>1</b></p> <p>Every colony must be protected in equipment with removable frames and located in a good apiary site.</p> 	<p><b>2</b></p> <p>Every colony must have a young, prolific queen.</p> 	<p><b>3</b></p> <p>Every colony must have ample honey and pollen reserves at all times.</p> 	<p><b>4</b></p> <p>Every colony must be monitored and managed for diseases and parasites.</p> 
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## Goals for the Year

- Follow the seasonal changes of your honey bee colony.
- Recognize signs of a healthy, queenright colony.
- Practice estimating the size of the adult bee population by counting seams of bees.
- Hone your skill at reading frames and use signals from the colony to make management decisions.
- Practice rating the brood pattern to flag issues like disease, parasite infestation, or a failing queen.
- Learn what ample and diverse food stores look. Appreciate how the local landscape affects the health and wellness of your bees. Not enough blooming flowers in your area for bee forage? Plant more!
- Become comfortable with monitoring varroa mite levels. Manage mites so that a colony stays healthy and does not spread varroa mites and pathogens.
- Practice hefting boxes to get a feel for the weight of a full box of honey stores.
- Grow your colony into a two-deep or three-deep colony ready to survive the winter.

# Equipment for a New Colony (Started as a Package Or Nuc)

## SPRING

### Before Your Bees Arrive

#### Personal equipment:

- Bee jacket, veil, or suit
- Gloves
- Hive tool
- Smoker

#### Equipment needed for each hive:

- Bottom board
- Inner cover
- Telescoping cover
- Entrance reducer
- Three deep hive boxes (with 9-10 frames in each box)
- Hive stand

### When Your Bees Arrive

- Feeder bucket with 1:1 sugar syrup
- Spray bottle with 1:1 sugar syrup
- Pollen substitute: 1-2 patties per hive (extra can be frozen)
- Mite treatment (oxalic acid for package; Hopguard for nuc)

## SUMMER

### As Your Bees Grow

- 2<sup>nd</sup> deep box
- 3<sup>rd</sup> deep box (if using the three-deep system)
- Queen excluder (may not be needed the first year)
- 2 supers (may not be needed the first year)
- Mite testing kit

### Nectar Flow

- Additional supers (as needed)

### After Nectar Flow

- Equipment for removing honey supers (may not be needed the first year)
  - Bee brush
  - Spare cover
  - Equipment for your preferred honey pulling method
- Access to honey extraction equipment (may not be needed the first year)
- Mite treatment
- Robbing screen, optional

## FALL

### Preparation for Winter

- Mite treatment (if mite levels are above threshold after summer treatment)
- Corks
- Entrance reducer
- Feeder bucket (if needed)
- 2:1 sugar syrup (if needed)

### Winterizing Your Bees

- Moisture board
- Winter cover
- Oxalic acid materials



Learn more in the **Beekeeping in Northern Climates Manual**

*"Chapter 4 Equipment", see page 27-41 | "Chapter 9 Harvesting Extracting Bottling Honey", see pages 101-109*



## Materials for Mite Treatment

- Seasonally appropriate mite treatment
- Any required application devices (e.g., 50mL syringe, vaporizer)
- Any required solution (e.g., sugar syrup made with soft water or distilled water for oxalic dribble)
- Chemical-resistant gloves
- Protective eye wear (safety glasses)
- Respiratory Protection, if needed (e.g., organic fume respirator, N95 particle respirator)
- Long sleeve shirt, long pants, socks, closed-toe shoes



# Equipment Needed to Manage and Divide an Overwintered Hive

## SPRING

### Late Winter/ Early Spring

- Emergency sugar feeding, if needed (e.g., frames of honey, winter patty, dry sugar)
- Pollen substitute
- Supplemental sugar feed, if needed (feeder bucket with 1:1 sugar if over 50°F)

### True Spring

- Mite testing kit
- Mite treatment
- Mated queen
- Additional deep box for the parent colony (with 9-10 frames)

### Hive equipment for divide colony:

- Bottom board
- Inner cover
- Telescoping cover
- Entrance reducer
- Two deep hive boxes (with 9-10 frames per box)
- Hive stand
- Feeder bucket with 1:1 sugar syrup

## SUMMER

### As Your Bees Grow

- 2<sup>nd</sup> deep box
- 3<sup>rd</sup> deep box (if using the three-deep system)
- Queen excluder (may not be needed the first year)
- 2 supers (may not be needed the first year)
- Mite testing kit

### Nectar Flow

- Additional supers (as needed)

### After Nectar Flow

- Equipment for removing honey supers (may not be needed the first year)
  - Bee brush
  - Spare cover
  - Equipment for your preferred honey pulling method
- Access to honey extraction equipment (may not be needed the first year)
- Mite treatment
- Robbing screen, optional

## FALL

### Preparation for Winter

- Mite treatment (if mite levels are above threshold after summer treatment)
- Corks
- Entrance reducer
- Feeder bucket (if needed)
- 2:1 sugar syrup (if needed)

### Winterizing Your Bees

- Moisture board
- Winter cover
- Oxalic acid materials



Learn more in the **Beekeeping in Northern Climates Manual**

"Chapter 4 Equipment", see page 27-41 |  
"Chapter 9 Harvesting Extracting Bottling Honey", see pages 101-109

## Sugar Syrup Recipes



### 1:1 Sugar Syrup

Mix 4 lb of sugar with enough water to make 1 gallon.

Spring feeding

Ratios are by weight.



### 2:1 Sugar Syrup

Mix 8 lb of sugar with enough water to make 1 gallon.

\*For late summer and early fall\*

Ratios are by weight.

Roughly measure the amount of sugar you need by filling a container (i.e., your feeder pail) half full of sugar for light 1:1 sugar syrup, or filling the container full of sugar for heavy 2:1 sugar syrup. Add hot water to the same container with the sugar to bring the syrup solution to the top and you will have the approximate sugar to water ratios. Mix until sugar fully dissolves.



## Equipment NOT needed

Equipment that you will see advertised but is not necessary:

- Probiotics
- Frame holder
- Supplements
- Frame spacer
- Pollen trap
- Frame spacing tool
- Frame grip

## Equipment for your wishlist

List of equipment that is nice to have but is not essential:

- Robbing screen
- Queen marking pen
- Extra bottom board
- Extra inner and telescoping cover
- Extra empty deep boxes
- Extra frames
- 5-frame nuc box
- Extra entrance reducer
- Mouse guard
- Extracting equipment
- Smoker box
- Multi-tool



# Rating Brood Pattern

Score your colony's brood pattern on a scale of 1–5 (Figure 102). Determine this score by taking the average score from two to three brood frames that have sealed brood. Do not include frames that have emerging brood or larvae just being sealed over with wax in the average score.

A **score of 1 or 2** on any sealed brood frame could indicate that there is a serious issue with the queen or a brood disease.

A **score of 3** tends to be average and is more common as the queen begins to shut down brood production in the fall.

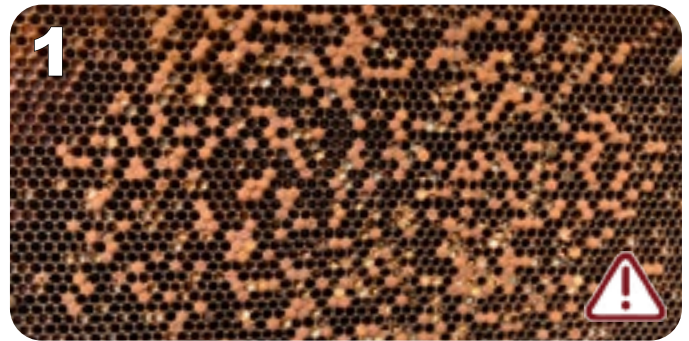
A **score of 4** is considered above average and can mean your queen is a productive layer and the brood is surviving.

A **score of 5** is a rare and magical thing where both the queen and the colony are high performers.

In a colony with a poor brood pattern, look for high mite levels, disease, queen problems, or old comb that needs to be replaced. Monitor brood patterns throughout the beekeeping season to detect a decrease score that can indicate a queen or disease problem.

Sometimes a poor brood pattern does not indicate an issue. Common cases are a new queen just getting going with her egg laying or a queen slowing down her egg laying in fall. Stored pollen or nectar in the brood nest can result in a poorer looking pattern. While this is not a problem in terms of colony health, it may mean the colony is preparing to swarm.

If brood patterns are a 3 or higher, still look closely at the brood. For example, note the queen cell in the pattern representing a score of 3 and uncapped brood in 4. A good pattern does not always mean the absence of an issue.





# Estimating Colony Population Size

Estimating colony size is a useful skill. For example, use this skill to discern when a colony is ready for their next deep (when 8 out of 10 frames are full). Counting seams of bees and frames of brood will also guide your timing on reversals and divides. Knowing whether your colony is increasing or decreasing in size will help you make management decisions and can provide an indicator of colony health. Colonies should grow throughout spring, peak in summer, and decrease going into fall as the queen stops laying as many eggs.

When you first open your hive, make a quick population estimate by looking down at the top deep before removing any frames. Don't use too much smoke during this step as it will send the bees down into the box, altering your estimate. We refer to the spaces between frames as "seams." Counting the seams that are full of bees will give you a general estimate of the colony size without having to inspect each frame. Compare your count from the previous hive inspection to see if your colony is growing.



Approximately **6 seams of bees** in this deep. The white wax indicates they are building new comb on these frames.



Approximately **8 seams of bees in a 9 frame box** in this deep, which means the box is beyond 80% full. Past time to add another box!





# Common Signs of Varroa Mite Damage

Varroa mites and the viruses they vector can lead to colony sickness and death. Visual inspection for varroa mites is not a reliable method for determining infestation levels. It is important to learn the visual signs of varroa mite damage as they are an indicator that you may have a mite or virus problem. If you notice any of these signs, test for varroa mites and consult your mite management plan for next steps.

## Mites in Drone Brood



Bees often build drone comb between brood boxes. When you remove a brood box and expose drone pupae, look for varroa mites. Mites prefer to feed and reproduce on drones over workers. Look quickly - mites may hide when exposed to the light!

## Uncapped Pupae



Uncapped pupae can be a sign of varroa mites, disease, wax moths, or comb issues. When varroa mites feed on a pupa, they deposit feces on the ceiling of the cells. Look for mite frass (feces) in uncapped pupae cells to determine if the uncapping is due to varroa mites. Presence of mite feces in deadout colonies can help you determine cause of death.

## Mite Frass in Brood Cells





## Worker Bees with Deformed Wings



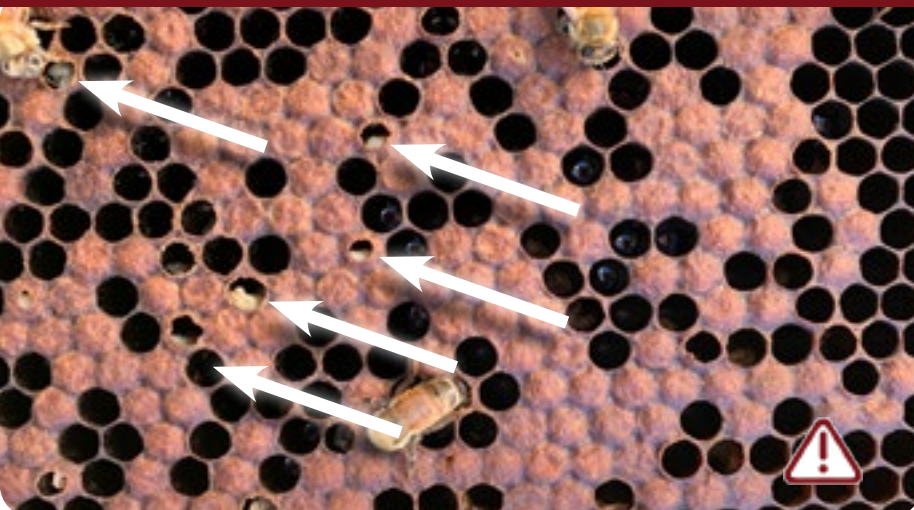
Varroa mites transmit deformed wing virus to bee pupae when they feed. This can cause shriveled, deformed wings.

## Mites on Adult Worker Bees



Varroa mites on adult bees will only be readily visible when mite levels are **high** in a colony. Most mites on are hidden from view: underneath the adult bees' bodies, and under sealed brood cappings.

## Parasitic Mite Brood Syndrome



Signs of a severe varroa mite infestation can include spotty brood patterns, uncapped pupal cells, pupae being removed from their cells, new adult bees dying on emergence from their cells, and melted white or yellow brood that can look like European foulbrood. Other varroa mite signs are frequently present. Most common in late summer and fall.





# Monitoring for Varroa Mites: Tips and Tricks

## Importance of Monitoring for Mites

Beekeepers cannot rely on visual inspection of their colonies to evaluate mite levels. For most of the spring and summer, many of the mites in a hive are reproducing in the capped brood cells and hidden from view. The remaining mites tend to cling to the underside of the adult bees. Once the beekeeper sees signs of mites such as deformed wings or mites on the back of worker bees, mite levels are often high. Beekeepers must evaluate the mite levels in their colonies, or risk colony sickness and death.

*Use monitoring to determine if your management plan is working. Avoid using monitoring to determine if you need to manage. Monitor mites at least once per month during the active beekeeping season. Repeated testing increases confidence in the results and can catch unexpected spikes in mite populations. Check mite levels before and after management in case your control action was not as effective as expected. Identify if mites re-infest colonies after management. Monitor all colonies. Mite levels often vary among colonies in the same yard, even when colonies are managed the same.*


## Monitoring Methods

Use the alcohol wash or powdered sugar shake to test for varroa mites. These methods will allow you to calculate a percent infestation (number of mites per 100 bees). The alcohol wash is the fastest and easiest field mite monitoring method. The powdered sugar shake relies on skill developed through practice. Avoid using the powdered sugar roll in humid weather or if the bees are on a nectar flow because the powdered sugar can dissolve and become sticky making the sample invalid. Stale or clumpy powdered sugar does not work. Both monitoring methods begin with collecting a sample of 300 bees from the brood nest area.



**Visual Step By Step Instructions Are Available Online**

**STEP BY STEP INSTRUCTIONS**  
How to test a colony for varroa mites using the alcohol wash method.



- 1** Fill jar 1/2 full of rubbing alcohol.
- 2** Feed a frame of bees with open and sealed brood. If queen is present, move her to different frame or select different brood frame.
- 3** Place tub on top of frames. Remove bees from the frame into the tub with a hard shake. **All method:** Gently run flat edge of scoop down backs of the bees, bees will tumble into scoop.
- 4** Pour or scoop 1/2 cup bees from tub into measuring cup. **Tip:** Tap measuring cup on hard surface after scooping to knock bees down and ensure a full 1/2 cup bees. **1/2 cup = 300 bees**
- 5** Pour bees into jar containing alcohol and secure with solid lid. **Shake/swirl bees strongly for one minute.**
- 6** Switch to mesh lid. Strain alcohol and bees, then invert jar over tub to pour out the alcohol. Shake jar to release additional mites. Wash bees again. Pour the alcohol from tub back into jar with bees, keeping out any mites already found. Repeat washing bees until no other mites fall out when you invert and shake jar. **Count mites in tub.** **Tip:** You can use water instead of alcohol for additional washes.
- 7** **TOTAL # MITES ÷ 3 = % MITES ON ADULT BEES**  
E.g., 6 mites divided by 3 estimates a 2% mite infestation on adult bees. **Tip:** For best estimate, count number of bees and use this formula:  
**% MITES ON ADULT BEES = (# MITES ÷ # BEES) × 100**



[z.umn.edu/MiteTestingKit](http://z.umn.edu/MiteTestingKit)



Every beekeeper should be comfortable with taking a sample of bees and monitoring for mites. The more you practice, the easier it will be!

For more information on varroa mite monitoring and management, visit the Bee Lab webpage:

[beelab.umn.edu/varroa-mite-testing](http://beelab.umn.edu/varroa-mite-testing)



# Managing for Varroa Mites: When & What?



All successful beekeepers manage varroa mites--it can't be avoided. There are many ways to manage mites, some more complicated than others. This guide is intended for Minnesota beekeepers who need a basic, tried and true method to keep their bees alive. As you build confidence and skill as a beekeeper, experiment with other management methods that require advanced techniques and knowledge of bee biology. It is always a good idea to use a variety of control methods, including mite resistant stock.

The most effective time to treat is when there is no brood in the colony as all the mites are on adult bees. Mites on adult bees are more easily killed; mites in brood are difficult to get rid of because the wax cappings on the brood cells protect the mites as they reproduce underneath. The hardest time to treat is when the colony has lots of brood. Mange in spring to help reduce the likelihood of high mite levels in late summer, when large brood nests make it hardest to treat effectively.

In May, June, August, and September, monitor varroa mites using the alcohol wash or powdered sugar shake (avoid using the sugar shake in high humidity or during a nectar flow). To confirm that the treatment worked the way you hoped, sample after treatment, except for the late fall brood-less treatment.

Manage based on this schedule, while noting the restrictions in the table of each product's label. For instructions on HOW to treat, see the Honey Bee Health Coalition page on varroa management:

[honeybeehealthcoalition.org/resources/varroa-management](https://honeybeehealthcoalition.org/resources/varroa-management)



## Spring

- Package: Treat with oxalic acid (EZ-OX or Api-Bioxal) 5 to 7 days after installing the package.
- Nuc: Ask the supplier if and how they managed mites in the spring. If they did not manage mites, use HopGuard® or use a different miticide once the bees occupy more than a full deep box.
- Overwintered colony: treat with Mite Away Quick Strips®, Formic Pro®, Apiguard®, or VarroSan®. Mite Away Quick Strips® and Formic Pro® can be applied when honey supers are on the colony. For other treatments, you must wait 30 to 70 days (length depends on treatment; read product label) after application before adding honey supers.
- In strong colonies, use drone brood to trap mites. Put a shallow or medium frame in a deep brood box, let the bees draw drone comb on the bottom of the frame and the queen lay eggs. Scrape the drone brood off the bottom of the frame before the drones emerge. Freeze to kill the mites or feed to chickens.

## Summer

- Treat colonies if mite levels are above 6 mites per 300 bees. Use Mite Away Quick Strips®, Formic Pro®, or VarroSan® as these products are safe to use with honey supers and can kill mites in brood.

## Before August 20

- Remove supers and treat with Mite Away Quick Strips®, Formic Pro®, Apiguard®, ApiLife VAR®, or VarroSan®. Then, check mites again after treatment and every two weeks in fall to see that the treatment worked and if there is mite re-infestation from nearby colonies. An additional treatment may be required.

## Fall when no brood left in the colony

- Treat with oxalic acid in late fall. Can use Hopguard®, but remove the strips before winter.

This treatment schedule is based on when the treatments are most effective and on mite and bee biology. This has been an effective method for us to manage mites and keep our bees alive! However, we cannot guarantee your colonies will not have additional issues with mites using this method. Monitoring often will help you catch unexpected spikes in your mite populations. Adjust your treatment plan accordingly.





# Tips for Taking Great Photos

## View From Above

Hold your camera level above the hive to photograph seams of bees. Take care not to shade the tops of frames.



*Avoid using too much smoke or the bees will move down.*

## Queen Location

Always check for the queen before taking a photo so she doesn't fall of the frame and you don't accidentally squish her.



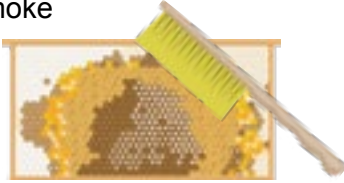
## Sun From Behind

Ensure the sun is behind you, allowing light to fall on your subject, and preventing glare. This is especially important for photographing eggs and larvae in cells.



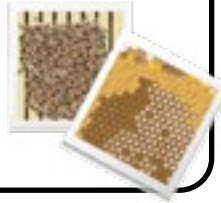
## Visible Frame

Shake or brush bees off the frame for a better image of brood and food resources; or move bees with a little puff of smoke



## Multiple Photos

Two or more photos can be necessary to tell a story or in order to get a good shot. A close-up can be helpful in the context of a full-frame or hive photo. Ex. when sending a picture of a possible brood issue, get both a close up shot of the brood in question and a shot of the full frame of brood.



## Be Aware of Shadow



Make sure your shadow does not shade your subject.

## Options for Positioning Frames for Photos



A beekeeping friend can keep your frame straight while you take a photo (doing both is challenging!).



Rest the frame on top of your box of frames, utilizing a hive tool to angle the frame and avoid squishing bees.

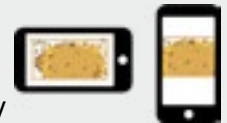


Prop the frame against the side of the box and kneel down to get a good photo.

## Smartphone Tips

- Skip the zoom feature. Just get your lens as close to the subject as you can. Try cropping the image later.
- The standard photo setting is the best. Avoid portrait mode.
- In bright sun, tap the subject on your screen to focus and adjust the exposure.
- Check camera lens and clean if needed.

- Before taking a photograph, think about if holding your phone vertically or horizontally would better frame the shot. Often, horizontal photos better capture images of frames.



- A phone holder can keep your device steady for you while you position your hive frame.



Photo: Beez Kneez

# Record Keeping Sheets

The following pages will help you keep track of your management and the health and growth of your colonies. We provide examples of filled out sheets first, then provide blank sheets.



**Suggestion:** Print out the sheets and store in a three-ring binder. Keep sheets from individual colonies together in the binder for easier recollection of that colony's past.

## Apiary Location

Use to plan and track your apiary.

**Apiary Location**  
Have you chosen your apiary location?

- Level, dry ground
- Space to comfortably work around the hive
- Sun exposure (ideally full sun)
- Permit (if needed)
- Water source
- Bear fencing (if needed)
- Windbreak, especially on the north side
- Easy access to carry or drive in beekeeping equipment

**Apiary Map**  
Draw a map of your apiary and label each colony with a name.

Map labels: Lawn, House, fence, Woods, Beehive, Blaine, 3, Fremont, driveway.

## Colony ID Cards

Keep records of the queen types and sources in your colonies.

**Colony ID Cards**

<p>Colony Name: <u>Fremont</u></p> <p>Date Started: <u>4-27-24</u></p> <p>Type of Hive: <input checked="" type="checkbox"/> Package  <input type="checkbox"/> Nuc  <input type="checkbox"/> Overwintered  <input type="checkbox"/> Drifted/Split  <input type="checkbox"/> Other</p> <p>Type of Queen: <input checked="" type="checkbox"/> Carnation  <input type="checkbox"/> Italian  <input type="checkbox"/> Russian  <input type="checkbox"/> Caucasian  <input type="checkbox"/> Other</p> <p>Queen/Bees Source: <u>Local Club</u></p> <p>Queen Updates: <u>6/24: merged queen cells seen</u></p>	<p>Colony Name: <u>3</u></p> <p>Date Started: <u>5-15-24</u></p> <p>Type of Hive: <input type="checkbox"/> Package  <input type="checkbox"/> Nuc  <input type="checkbox"/> Overwintered  <input checked="" type="checkbox"/> Drifted/Split  <input type="checkbox"/> Other</p> <p>Type of Queen: <input type="checkbox"/> Carnation  <input type="checkbox"/> Italian  <input type="checkbox"/> Russian  <input type="checkbox"/> Caucasian  <input type="checkbox"/> Other</p> <p>Queen/Bees Source: <u>Northwest Bee Network</u></p> <p>Queen Updates:</p>
<p>Colony Name: <u>Blaine</u></p> <p>Date Started: <u>5-15-24</u></p> <p>Type of Hive: <input type="checkbox"/> Package  <input type="checkbox"/> Nuc  <input checked="" type="checkbox"/> Overwintered  <input type="checkbox"/> Drifted/Split  <input type="checkbox"/> Other</p> <p>Type of Queen: <input type="checkbox"/> Carnation  <input type="checkbox"/> Italian  <input type="checkbox"/> Russian  <input type="checkbox"/> Caucasian  <input type="checkbox"/> Other</p> <p>Queen/Bees Source: <u>Native (Empressaire CD)</u></p> <p>Queen Updates: <u>6/24: she went down (4mm long) put in a sealed Italian queen from local supplier</u></p>	<p>Colony Name: <u>Blaine</u></p> <p>Date Started: <u>5-22-24</u></p> <p>Type of Hive: <input type="checkbox"/> Package  <input type="checkbox"/> Nuc  <input type="checkbox"/> Overwintered  <input checked="" type="checkbox"/> Drifted/Split  <input type="checkbox"/> Other</p> <p>Type of Queen: <input type="checkbox"/> Carnation  <input type="checkbox"/> Italian  <input type="checkbox"/> Russian  <input type="checkbox"/> Caucasian  <input type="checkbox"/> Other</p> <p>Queen/Bees Source: <u>with-raising queen - virtual queen source</u></p> <p>Queen Updates:</p>

## Colony Inspection Report

Fill out a sheet each time you perform an inspection to write down key indicators of colony health. Share current and past sheets with a mentor to help diagnose issues. Keep for your own records to track colony progress.

**Colony Inspection Report** Date: 5/20/24

Colony Name: Firewood Blooming: apple trees, dandelion

Temp: 72 Weather: part sun Flight Activity: high, lots of pollen

<p><b>Hive Configuration</b></p> <p>Deep: <u>2</u> Medium: <u>0</u> Shallow: <u>0</u></p>	<p><b>Nutrition</b></p> <p>Protein: <u>10</u> Carbohydrate: <u>10</u> Water: <u>10</u> Supplemental Feeding: <u>0</u> Pollen Substitute: <u>0</u> Sugar Syrup: <u>0</u> Other: <u>0</u></p>	<p><b>Bees &amp; Brood</b></p> <p>Bees Present: <u>10</u> Brood: <u>10</u> Queen: <u>1</u> Growth: <u>10</u></p>	<p><b>Brood &amp; Queen Status</b></p> <p>Check All That You See:  <input type="checkbox"/> Queen Seen  <input type="checkbox"/> Eggs Seen  <input type="checkbox"/> Larvae  <input type="checkbox"/> Pupae  <input type="checkbox"/> Queen Cells  <input type="checkbox"/> Brood  <input type="checkbox"/> Other</p>	<p><b>Varroa Mites &amp; Disease</b></p> <p>Signs of Mites or Pests/Disease:  <input type="checkbox"/> Mites  <input type="checkbox"/> Pests  <input type="checkbox"/> Disease  <input type="checkbox"/> Other</p>
---	---	--	---	--

**Inspection Summary:** Queen  
Top box had 5 frames without comb  
Pollen was different colors

**What pictures did you take?**  
Outside of hive  
Brood frame with pollen


**Plan for Your Next Visit:**  
Bring 3rd deep box





# Apiary Location Example


## 📍 Apiary Location


Have you chosen your apiary location?


Level, dry ground 


Sun exposure (ideally full sun) 


Water source 


Windbreak, especially on the north side 

Easy access to carry or drive in beekeeping equipment 

Space to comfortably work around the hives 

Permit (if needed) 

Bear fencing (if needed) 

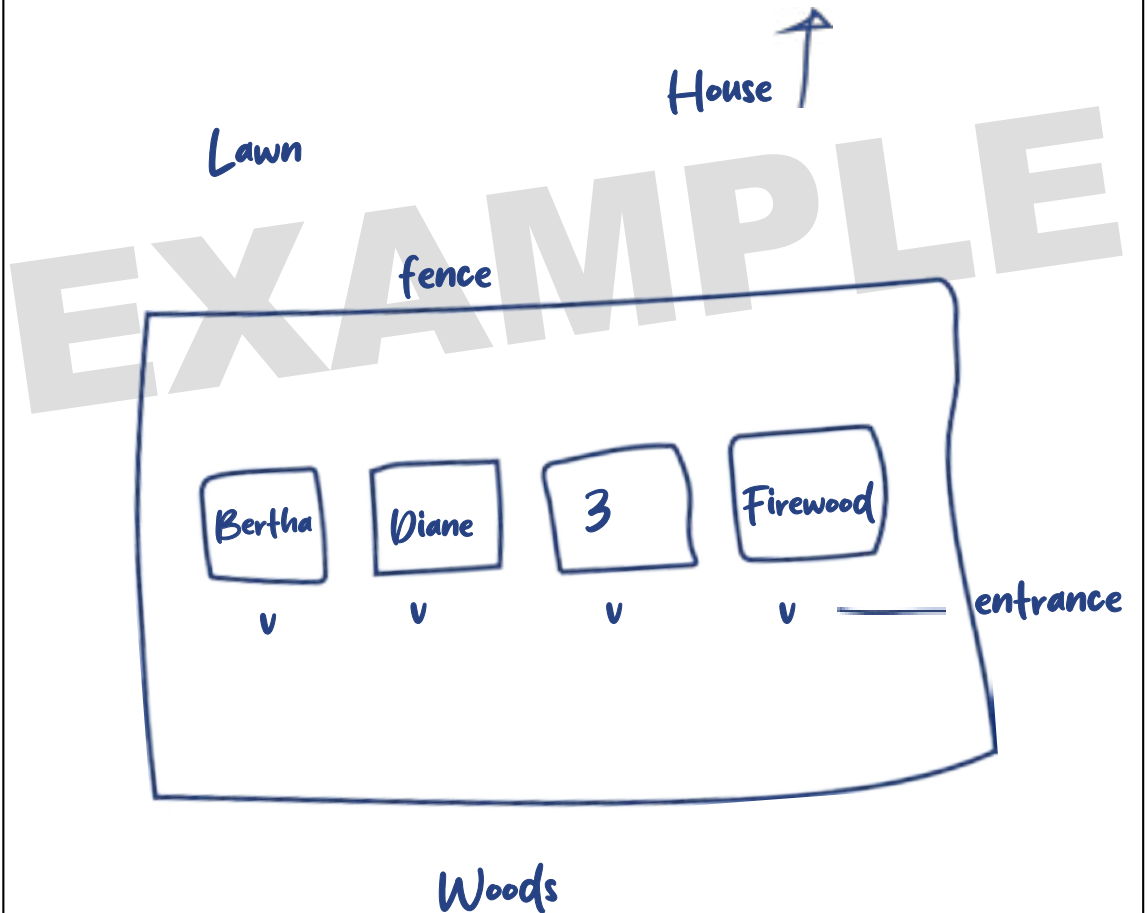
 Learn more in the **Beekeeping in Northern Climates Manual**

“Selecting an Apiary Site” pages 42-43



### Apiary Map

Draw a map of your apiary and label each colony with a name.



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# Colony ID Cards Example

## Colony ID Cards

Colony Name: Firewood

Date Started: 4-27-24

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

Queen/Bee Source:

Local Club

Queen Updates:

6/24: emerged queen cells seen

Colony Name: 3

Date Started: 5-15-24

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

Queen/Bee Source:

Northern Bee Network

Queen Updates:

Colony Name: Bertha

Date Started: 5-15-24

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:  
same as last year

Queen/Bee Source:

Nature (supersedure Q)

Queen Updates:

6/24: she went droney (drone layer)  
put in a mated Italian queen from  
local supplier

Colony Name: Diane

Date Started: 5-22-24

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:  
Raised Own

Queen/Bee Source:

walk-away divide - raised

Queen Updates:

own queen























# Colony Inspection Report Example 1

## Colony Inspection Report

Date 5/20/24

Colony Name Firewood Blooming  apple trees, dandelions

Temp  72 Weather  part sun Flight Activity  high, lots of pollen

Hive Configuration	Nutrition	Bees & Brood	Brood & Queen Status	Varroa Mites & Disease	
<b>Before Management:</b> # <u>0</u>  # <u>2</u>  <b>After Management:</b> # <u>0</u>  # <u>2</u> 	<b>Adequate Food Stores:</b> <input checked="" type="checkbox"/> Pollen  <input checked="" type="checkbox"/> Nectar/Honey  <b>Supplemental Feeding:</b> <input type="checkbox"/> Pollen Substitute  <input type="checkbox"/> Sugar Syrup  <input type="checkbox"/> Other _____	<b>Seams of Bees:</b> <u>10</u> <b>Brood Pattern:</b> <input type="checkbox"/> 1  <input type="checkbox"/> 2  <input checked="" type="checkbox"/> 3  <input type="checkbox"/> 4  <input type="checkbox"/> 5  <b>Temperament:</b> <u>gentle</u>	<b>Check All That You See:</b> <input checked="" type="checkbox"/> Queen Seen  <input checked="" type="checkbox"/> Eggs Seen  <input checked="" type="checkbox"/> Larvae  <input checked="" type="checkbox"/> Sealed Brood  <b>Queen Cells:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Location:</b> <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<b>Signs of Mites or Brood Disease:</b>  <input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input checked="" type="checkbox"/> No ↓ ↓ What did you see?	<b>Mite Management:</b>  Did you test for mites? <input type="checkbox"/> Yes _____ # Varroa Mites <input checked="" type="checkbox"/> No Did you treat for mites? <input type="checkbox"/> Yes _____ Treatment Used <input checked="" type="checkbox"/> No ↓ _____ # of Days Before Colony Can Be Inspected



**Inspection Summary:**  
(management performed, observations, and actions)



**What pictures did you take?**

Top box had 5 frames without comb

Pollen was different colors

-Queen

- Outside of hive

-Brood frame with pollen

**Plan for Your Next Visit:**

Bring 3rd deep box

EXAMPLE

# Colony Inspection Report Example 2

## Colony Inspection Report



















Date 7-13-24

Colony Name 3

Blooming  Basswood

Temp  80 Weather  sun

Flight Activity  medium, some bees flying

Hive Configuration	Nutrition	Bees & Brood	Brood & Queen Status	Varroa Mites & Disease
<b>Before Management:</b> # <u>2</u>  Honey Supers # <u>2</u>  Brood Boxes <b>After Management:</b> # <u>4</u>  Honey Supers # <u>2</u>  Brood Boxes	<b>Adequate Food Stores:</b> <input checked="" type="checkbox"/> Pollen  <input checked="" type="checkbox"/> Nectar/Honey  <b>Supplemental Feeding:</b> <input type="checkbox"/> Pollen Substitute  <input type="checkbox"/> Sugar Syrup  <input type="checkbox"/> Other _____	<b>Seams of Bees:</b> <u>18</u> <b>Brood Pattern:</b> <input type="checkbox"/> 1  <input type="checkbox"/> 2  <input type="checkbox"/> 3  <input checked="" type="checkbox"/> 4  <input type="checkbox"/> 5  <b>Temperament:</b>	<b>Check All That You See:</b> <input type="checkbox"/> Queen Seen  <input checked="" type="checkbox"/> Eggs Seen  <input checked="" type="checkbox"/> Larvae  <input checked="" type="checkbox"/> Sealed Brood  <b>Queen Cells:</b> <input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No <b>Location:</b> <input type="checkbox"/> Sealed <input checked="" type="checkbox"/> Unsealed <u>Edges of frame</u>	<b>Signs of Mites or Brood Disease:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Maybe <input type="checkbox"/> No ↓ ↓ What did you see? <u>few opened cells with pupa visible</u> <b>Mite Management:</b> Did you test for mites? <input checked="" type="checkbox"/> Yes <u>3</u> # Varroa Mites <input type="checkbox"/> No Did you treat for mites? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Treatment Used _____ # of Days Before Colony Can Be Inspected _____



**Inspection Summary:**  
(management performed, observations, and actions)



**What pictures did you take?**

Growing well! Worried they are thinking of swarming.

-Outside of hive

Will check back in 7 days.

EXAMPLE


**Plan for Your Next Visit:**


More supers





# Apiary Location


Have you chosen your apiary location?


Level, dry ground 


Sun exposure (ideally full sun) 


Water source 

Windbreak, especially on the north side 

Easy access to carry or drive in beekeeping equipment 

Space to comfortably work around the hives 

Permit (if needed) 

Bear fencing (if needed) 



**Learn more in the Beekeeping in Northern Climates Manual**

*"Selecting an Apiary Site" pages 42-43*



## Apiary Map

Draw a map of your apiary and label each colony with a name.



**Additional Apiary Location Notes:**

# Colony ID Cards

**Colony Name:** \_\_\_\_\_

**Date Started:** \_\_\_\_\_

Type of Hive:	Type of Queen:
<input type="checkbox"/> Package	<input type="checkbox"/> Carniolan
<input type="checkbox"/> Nuc	<input type="checkbox"/> Italian
<input type="checkbox"/> Overwintered	<input type="checkbox"/> Russian
<input type="checkbox"/> Divide/Split	<input type="checkbox"/> Caucasian
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:

\_\_\_\_\_

**Queen/Bee Source:**

**Queen Updates:**

**Colony Name:** \_\_\_\_\_

**Date Started:** \_\_\_\_\_

Type of Hive:	Type of Queen:
<input type="checkbox"/> Package	<input type="checkbox"/> Carniolan
<input type="checkbox"/> Nuc	<input type="checkbox"/> Italian
<input type="checkbox"/> Overwintered	<input type="checkbox"/> Russian
<input type="checkbox"/> Divide/Split	<input type="checkbox"/> Caucasian
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:

\_\_\_\_\_

**Queen/Bee Source:**

**Queen Updates:**

**Colony Name:** \_\_\_\_\_

**Date Started:** \_\_\_\_\_

Type of Hive:	Type of Queen:
<input type="checkbox"/> Package	<input type="checkbox"/> Carniolan
<input type="checkbox"/> Nuc	<input type="checkbox"/> Italian
<input type="checkbox"/> Overwintered	<input type="checkbox"/> Russian
<input type="checkbox"/> Divide/Split	<input type="checkbox"/> Caucasian
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:

\_\_\_\_\_

**Queen/Bee Source:**

**Queen Updates:**

**Colony Name:** \_\_\_\_\_

**Date Started:** \_\_\_\_\_

Type of Hive:	Type of Queen:
<input type="checkbox"/> Package	<input type="checkbox"/> Carniolan
<input type="checkbox"/> Nuc	<input type="checkbox"/> Italian
<input type="checkbox"/> Overwintered	<input type="checkbox"/> Russian
<input type="checkbox"/> Divide/Split	<input type="checkbox"/> Caucasian
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:

\_\_\_\_\_

**Queen/Bee Source:**

**Queen Updates:**

# Colony ID Cards

Colony Name: \_\_\_\_\_

Date Started: \_\_\_\_\_

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

\_\_\_\_\_

\_\_\_\_\_

Queen/Bee Source:

Queen Updates:

Colony Name: \_\_\_\_\_

Date Started: \_\_\_\_\_

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

\_\_\_\_\_

\_\_\_\_\_

Queen/Bee Source:

Queen Updates:

Colony Name: \_\_\_\_\_

Date Started: \_\_\_\_\_

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

\_\_\_\_\_

\_\_\_\_\_

Queen/Bee Source:

Queen Updates:

Colony Name: \_\_\_\_\_

Date Started: \_\_\_\_\_

Type of Hive:

- Package
- Nuc
- Overwintered
- Divide/Split
- Other:

Type of Queen:

- Carniolan
- Italian
- Russian
- Caucasian
- Other:

\_\_\_\_\_

\_\_\_\_\_


Queen/Bee Source:

Queen Updates:

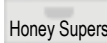
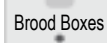
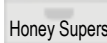
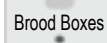















# Colony Inspection Report

Date \_\_\_\_\_

Colony Name \_\_\_\_\_ Blooming  \_\_\_\_\_

Temp  \_\_\_\_\_ Weather  \_\_\_\_\_ Flight Activity  \_\_\_\_\_

Hive Configuration	Nutrition	Bees & Brood	Brood & Queen Status	Varroa Mites & Disease	
<b>Before Management:</b> # _____  # _____  <b>After Management:</b> # _____  # _____ 	<b>Adequate Food Stores:</b> <input type="checkbox"/> Pollen  <input type="checkbox"/> Nectar/Honey  <b>Supplemental Feeding:</b> <input type="checkbox"/> Pollen Substitute  <input type="checkbox"/> Sugar Syrup  <input type="checkbox"/> Other _____	<b>Seams of Bees:</b> <b>Brood Pattern:</b> <input type="checkbox"/> 1  <input type="checkbox"/> 2  <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <b>Temperament:</b>	<b>Check All That You See:</b> <input type="checkbox"/> Queen Seen  <input type="checkbox"/> Eggs Seen  <input type="checkbox"/> Larvae  <input type="checkbox"/> Sealed Brood  <b>Queen Cells:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No  ↓ Location: <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<b>Signs of Mites or Brood Disease:</b>  <input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No ↓      ↓ What did you see?	<b>Mite Management:</b>  Did you test for mites? <input type="checkbox"/> Yes _____ # Varroa Mites <input type="checkbox"/> No Did you treat for mites? <input type="checkbox"/> Yes _____ Treatment Used <input type="checkbox"/> No ↓ # of Days Before Colony Can Be Inspected



**Inspection Summary:**  
(management performed, observations, and actions)



**What pictures did you take?**

**Plan for Your Next Visit:**

**Additional Colony Inspection Notes:**