



## WASHINGTON MASTER BEEKEEPERS

NAME \_\_\_\_\_

### APPRENTICE TEST 1

#### CHAPTER 1

- \_\_\_\_\_ 1) Three castes of honey bees live in a colony – a queen, workers, and drones.
- \_\_\_\_\_ 2) *Apis mellifera* communicate through pheromones, dances, and head butts.
- \_\_\_\_\_ 3) Workers in the hive are assigned work roles, e.g. mortuary bee, nurse bee, guard bee based on their size.
- \_\_\_\_\_ 4) A drone's only job is to mate with the queen. They must be fed by the workers and are ousted from the hive in the fall.
- \_\_\_\_\_ 5) Foragers gather pollen, nectar, and wax from flowers.
- \_\_\_\_\_ 6) Bee space is 3/8 inches which allows bees to move about the hive.
- \_\_\_\_\_ 7) *Apis mellifera* is native to North America.
- \_\_\_\_\_ 8) The seasons and the weather dictate the honey bee's life.
- \_\_\_\_\_ 9) *Apis mellifera* are critical pollinators for our economy.
- \_\_\_\_\_ 10) The queen is the true decision maker in the colony.



## WASHINGTON MASTER BEEKEEPERS

NAME \_\_\_\_\_

### APPRENTICE TEST 2

#### CHAPTER 2

- \_\_\_\_\_ 1) VSH is a honeybee behavioral trait.
- \_\_\_\_\_ 2) Each subspecies exhibits the personality quirks or behaviors of their subspecies. Not all bees embody the same behavior to the same degree, however. These behavior traits are more like tendencies, or guidelines, not hard and fast rules.
- \_\_\_\_\_ 3) *Apis mellifera carnica* are exceptionally light in color.
- \_\_\_\_\_ 4) Your bee selection consideration should include honey production, overwintering, and spring buildup to name a few.
- \_\_\_\_\_ 5) Many of the bee packages sold in Washington are made from bees that originated in Texas.

#### CHAPTER 3

- \_\_\_\_\_ 6) The Langstroth movable frame hive is used by most beekeepers.
- \_\_\_\_\_ 7) Screened bottom boards can be used for ventilation and Integrated Pest Management (IPM).
- \_\_\_\_\_ 8) Queen excluders should be kept on the hive year around.
- \_\_\_\_\_ 9) When opening a hive, use lots of hot smoke to calm the bees.
- \_\_\_\_\_ 10) Most city ordinances covering beekeeping require that beekeepers wear gloves.



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NAME \_\_\_\_\_

### APPRENTICE TEST 3

#### CHAPTER 4

- \_\_\_\_\_ 1) Beekeepers are responsible for knowing the beekeeping ordinances for their area.
- \_\_\_\_\_ 2) Excessive moisture and humidity are dangerous bee-killers.
- \_\_\_\_\_ 3) Beekeepers do not need permission to place their hives on their neighbor's property.
- \_\_\_\_\_ 4) *Apis mellifera* prefers water that has minerals and that may appear "dirty" to us.
- \_\_\_\_\_ 5) In order to avoid potential problems, beekeepers should take time to introduce their neighbors to their beekeeping activities.
- \_\_\_\_\_ 6) If your apiary is fenced, make sure your fence has slat opening to help avoid cold-air sinks.
- \_\_\_\_\_ 7) Honey bees are best able to defend their colony from predators if their hive is set directly on the ground.
- \_\_\_\_\_ 8) Depending upon where you live, exposure to the sun and shade are important components to successful beekeeping.
- \_\_\_\_\_ 9) When painting your hives, make all the hives the same color without any markings. This will prevent confusing the bees.
- \_\_\_\_\_ 10) Many city ordinances require the use of a fence or other obstruction to redirect bees flight paths over pedestrians.



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NAME \_\_\_\_\_

### APPRENTICE TEST 4

#### CHAPTER 5

- \_\_\_\_\_ 1) Whether sick or healthy, brood may be the strongest indicator of overall colony health.
- \_\_\_\_\_ 2) American Foulbrood (AFB) is the most devastating bee disease, requiring a beekeeper to burn their infected equipment. It produces a long, stretchy string when a toothpick is put into an infected cell and pulled out.
- \_\_\_\_\_ 3) Sacbrood is a disease of adult bees.
- \_\_\_\_\_ 4) There are no cures for honeybee viruses like Deformed Wing Virus (DFV) and Israeli Paralytic Virus (IPV).
- \_\_\_\_\_ 5) European Foulbrood (EFB) is less serious than AFB and can even resolve itself when the weather warms and the nectar flow begins.
- \_\_\_\_\_ 6) Tracheal mites are an external pest and can be seen without the use of a microscope.
- \_\_\_\_\_ 7) Testing for *Varroa* mites is critical to managing the overall health of your hive.
- \_\_\_\_\_ 8) *Varroa* mites reproduce under the capped brood cells, and their population typically peaks in the early summer.
- \_\_\_\_\_ 9) *Varroa* mite treatments should be rotated to keep the mites from becoming resistant to any one medication as has happened in the past.
- \_\_\_\_\_ 10) If you choose not to treat for *Varroa* mites, you put all hives within a one to three mile radius at risk.



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NAME \_\_\_\_\_

### APPRENTICE TEST 5

#### CHAPTER 6

- \_\_\_\_\_ 1) Humans may be the most obnoxious pest to *Apis mellifera*.
- \_\_\_\_\_ 2) You may be able to train skunks to stay away from hives by placing a scarecrow in the apiary.
- \_\_\_\_\_ 3) If your hive's entrance is higher than 5/16", place a mouse guard on the hive entrance to keep mice out during winter.
- \_\_\_\_\_ 4) Sprinkling cinnamon around the hive will keep hornets and wasps away.
- \_\_\_\_\_ 5) If you live in bear country, the best way to ensure your hives are safe is a strong (electrified) fence.
- \_\_\_\_\_ 6) The most effective way to control yellow jackets that rob hives in the fall is to trap the queens in the springtime.
- \_\_\_\_\_ 7) Small hive beetles are one of the major pests of bee hives in the northern tier of the United States.
- \_\_\_\_\_ 8) To protect unused drawn comb from wax moths, store it in a dark, warm environment.
- \_\_\_\_\_ 9) Freezing frames for just one hour will kill all stages of wax moths: both eggs and larvae.
- \_\_\_\_\_ 10) Pesticide poisoning risk is a concern in many locations, including agricultural, suburban, and urban. Pesticides can kill bees suddenly, or over time with the buildup of toxic chemicals in their wax.



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NAME \_\_\_\_\_

### APPRENTICE TEST 6

#### CHAPTER 7

- \_\_\_\_\_ 1) The eggs laid by the queen in the fall become the bees that attend the queen all winter.
- \_\_\_\_\_ 2) Feed the bees a 2:1 sugar to water syrup in the spring to get them off to a good start.
- \_\_\_\_\_ 3) When combining a weak and strong colony the weak colony is always on the bottom.
- \_\_\_\_\_ 4) A strong colony can be split into two to avoid overcrowding and swarming, or to increase the number of colonies in the apiary.
- \_\_\_\_\_ 5) In the spring, provide more room for the queen to lay by adding three to four deeps.
- \_\_\_\_\_ 6) Never open your hives in the spring. Wait until summer.
- \_\_\_\_\_ 7) When manipulating frames always leave the brood next to their food sources.
- \_\_\_\_\_ 8) Use of feeders *internal* to the hive helps alleviate the risk of robber bees and yellow jackets – especially during the late summer dearth.
- \_\_\_\_\_ 9) Never feed the bees sugar syrup when honey supers are on, to avoid adulterating the honey meant for human consumption.
- \_\_\_\_\_ 10) Just like bears, *Apis mellifera* hibernates in the winter.



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NAME \_\_\_\_\_

### APPRENTICE TEST 7

#### CHAPTER 8

- \_\_\_\_\_ 1) IPM stands for Internal Pest Magnet.
- \_\_\_\_\_ 2) IPM includes physical, biological and genetic controls.
- \_\_\_\_\_ 3) Workers are the decision-makers in the hive.
- \_\_\_\_\_ 4) Feed the bees 1:1 sugar syrup all summer.
- \_\_\_\_\_ 5) Swarming is a natural behavior for *Apis mellifera*.
- \_\_\_\_\_ 6) Supersedure occurs when a laying worker replaces a failing queen.
- \_\_\_\_\_ 7) Radial extractors require turning the frames during honey processing.
- \_\_\_\_\_ 8) Washington State has precise requirements regarding labeling honey containers in their laws (Revised Code of Washington).
- \_\_\_\_\_ 9) Feed your bees during a dearth if honey stores are light.
- \_\_\_\_\_ 10) Using a bee escape is one method of getting the bees out of the honey supers before you begin to harvest the honey.



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NAME \_\_\_\_\_

### APPRENTICE TEST 8

#### CHAPTER 9

- \_\_\_\_\_ 1) Weak hives will over-winter successfully.
- \_\_\_\_\_ 2) State and county fair honey show guidelines/rules were developed for farmers to learn to market their honey to the public.
- \_\_\_\_\_ 3) Fall feeding requires a 2:1 sugar syrup.
- \_\_\_\_\_ 4) Unless medication directions say you can, never medicate while honey supers are on.
- \_\_\_\_\_ 5) *Varroa* populations reach their peak in January.
- \_\_\_\_\_ 6) You may want to replace an old queen with a new one during the fall, ensuring a vigorous queen for the spring.
- \_\_\_\_\_ 7) Remove summer mouse guards for Fall/Winter.
- \_\_\_\_\_ 8) Ensure your hives are sealed to keep outside water out.
- \_\_\_\_\_ 9) Always treat the hives with the same *Varroa* mite medication you used in the spring.
- \_\_\_\_\_ 10) Oxalic acid treatments are most effective when there is very little or no brood.





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NAME \_\_\_\_\_

### APPRENTICE TEST 9

#### CHAPTER 10

- \_\_\_\_\_ 1) Bees can digest fondant even if it's lower than 55°.
- \_\_\_\_\_ 2) Bees cannot take liquid feed when the temperatures are lower than 55°.
- \_\_\_\_\_ 3) When the weather is cold you can check on your bees by knocking on the side of the hive and listening.
- \_\_\_\_\_ 4) Bees fail to live through winter if they enter the season weak or too small to make an adequate cluster.
- \_\_\_\_\_ 5) If your hives are in a windy location protect them from winter winds. Provide a wind break, add a weight (such as a cinder block) on top of the lid, and/or use a strap to keep the hive intact.
- \_\_\_\_\_ 6) If the hive entrance becomes full of dead bees during the winter, leave them in place to help warm the hive.
- \_\_\_\_\_ 7) Clusters move upward in the hive throughout winter.
- \_\_\_\_\_ 8) The temperature in the middle of the cluster averages 45°.
- \_\_\_\_\_ 9) The warmer it is outside, the more tightly bees cluster together.
- \_\_\_\_\_ 10) Excessive moisture in winter is a major killer of colonies.



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NAME \_\_\_\_\_

### APPRENTICE TEST 10

#### CHAPTER 11

- \_\_\_\_\_ 1) Washington State University (WSU) is responsible for County Extension in Washington.
- \_\_\_\_\_ 2) Beekeeping Clubs can assist with the education of the public about honey bees.
- \_\_\_\_\_ 3) Local clubs can act as honey bee inspectors.
- \_\_\_\_\_ 4) Washington State University (WSU) runs a major honey bee research program.
- \_\_\_\_\_ 5) American Beekeeping Federation (ABF) represents beekeepers in Congress.

#### CHAPTER 12

- \_\_\_\_\_ 6) Bees forage on native and invasive plants (including weeds) as well as landscape and agricultural plants.
- \_\_\_\_\_ 7) Only plant spring blooming flowers as the honey bees need them the most.
- \_\_\_\_\_ 8) The state of Washington provides bioregional guides on the internet.
- \_\_\_\_\_ 9) Crocus is one of the late fall flowers for honey bees.
- \_\_\_\_\_ 10) WSU Master Gardeners are a nearby source of information when we have questions about plants, including weeds, in the region and on our property.