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HONEY HOUSE SANITATION GUIDE

A honey house is any building, room or place within a home or building, that is stationary or portable which is used for the purposes of harvesting and/or extracting, processing, packing and/or handling and storage and/or distribution of honey. Honey is a “raw agricultural commodity” as defined in section 201 (r) of the 21 USCS §321 as any food in its raw or natural state. As such these operations are subject to exclusions 21 CFR 110.19 before being marketed to the consuming public.

The West Virginia Department of Agriculture highly recommends that all apiarists be registered in the State of West Virginia per WV Code Chapter 19 Article 13, and follow 21 CFR Part 110-Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food. These guidelines follow the federal GMP's.

1.) Personnel

- A. Disease Control:* Any person who has an illness, open lesions, infected cut, etc. shall be excluded from the facility which may result in contamination of raw materials, product or food-contact surfaces until the condition is corrected.
- B. Cleanliness:* Anyone working in direct contact with honey shall conform to good hygienic practices to prevent contamination by:
1. Wearing clean outer garments.
 2. Maintaining adequate personal cleanliness.
 3. Washing hands thoroughly before starting work, after using the restroom, and anytime the hands become soiled.
 4. Removing all unsecured jewelry or other objects that might fall into the honey, equipment or containers.
 5. Maintaining gloves in clean and sanitary conditions.
 6. Wearing effective hair restraints such as, hair nets, head bands, caps, beard covers during extracting, processing, and/or bottling.
 7. Storing personal belongings in areas other than the honey house.
 8. Refrain from eating food, chewing gum, drinking beverages, or using tobacco.

9. Storing toxic substances away from food contact areas.

C. *Education and Training:* All persons engaged in honey production should have knowledge of safe food handling practices and personnel in counties where Food Handlers Permits are required should receive training and possess the required permit.

D. *Supervision:* Assures responsibility of compliance by all personnel.

2.) **Plant and Grounds**

A. *Grounds:* The area around and near the structure shall be maintained in a condition that will protect against contamination by:

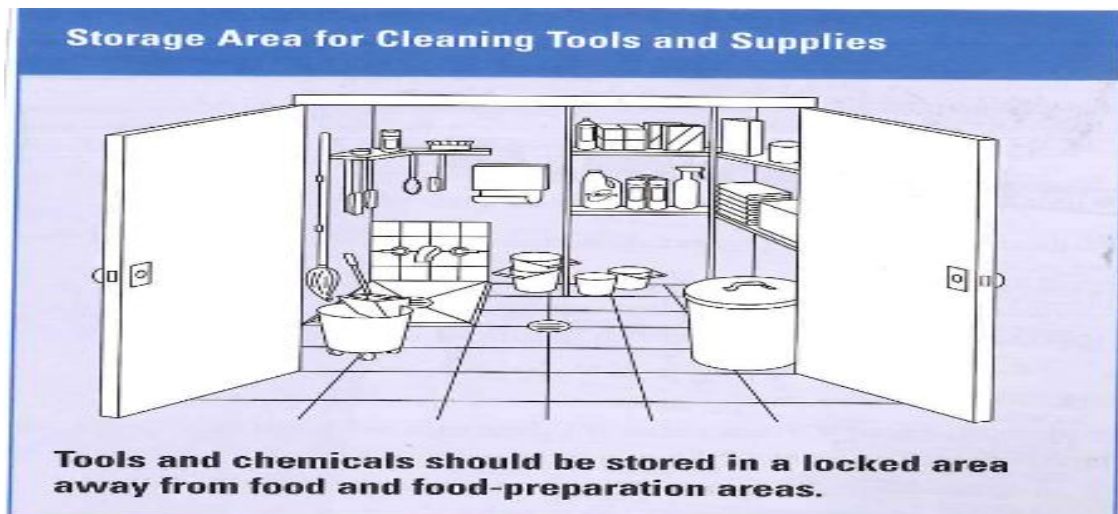
1. Removing all litter and waste.
2. Cutting grass and weeds in yard to prevent harborage of pests.
3. Maintaining roads, yards, and parking area to be free of water pooling.
4. Adequate drainage of area to prevent foot-borne filth.

B. *Plant Construction and Design:* The structure shall be of such a size, design, and construction that will allow and facilitate maintenance and sanitary operations. The work space should provide sufficient space for placement of equipment and storage of materials. It should accommodate cleaning and sanitizing of equipment; as well as proper storage and protection from contamination of raw materials, product, utensils, bottles, etc.

1. Floors: The floors of all rooms in which honey is extracted, processed and packed and the storage rooms for honey, shall be of concrete or other equally impervious and easily cleaned material and shall be smooth, kept clean and in good repair.
2. Walls and Ceilings: Walls and ceilings of rooms in which honey is processed or packed shall have smooth, washable and/or durable surfaces and shall be kept clean and in good repair.
3. Doors and Windows: All outer honey house doors shall be kept closed during the extraction, processing, preparing, packaging or handling of honey and shall be kept clean and in good repair. Windows which are open during the extraction, processing, preparing, packaging or handling of honey shall be effectively screened to prevent entrance of insects; however, may be provided with bee escapes and shall be kept clean and in good repair.
4. Lighting: All room(s) shall provide adequate lighting in all areas where honey is examined, processed or stored and where equipment and utensils are cleaned. Safety-type light-bulbs, shielded or shatter-resistant lighting fixtures in the processing area shall be provided to protect against contamination in case of glass breakage.
5. Ventilation: Provide when needed to minimize odors and vapors, and when necessary adequate screening to protects against pests.

3.) Sanitary Operations

- A. *General Maintenance:* Buildings, fixtures, and other physical facilities of the honey house shall be maintained in a sanitary condition to prevent against contamination and the honey becoming considered adulterated.
- B. *Substances Used in Cleaning and Sanitizing; Storage of Toxic Materials:* Shall be safe and adequate under the conditions of use. Only food grade cleaners and sanitizers with manufacturer's directions for use may be used for the cleaning and sanitization of equipment and utensils. Toxic materials shall be identified and stored in a manner that prevents contamination of honey, any contact surfaces and packaging materials.



- C. *Pest Control:* There shall be no evidence of rodent activity or insects other than bees in the facility. Chemical pest control application shall be conducted in a manner consistent with manufacturer's directions to not contaminate food products or food product contact surfaces. A person shall not apply a pesticide within a building used for the preparation or the serving of food except under the direct supervision of persons licensed to apply pesticides in accordance with the Chapter 19. Article 16A. West Virginia Pesticide Control Act of 1990; Title 61. Series 12. Fee Structure for The Pesticide Control Act of 1990; Title 61. Series 12A. Certified Pesticide Applicator Rules; and Title 61. Series 12B. Licensing of Pesticide Businesses.

- D. *Sanitation of Food-contact Surfaces:* Facilities with hot and cold running water must be provided, including a sink separate from the hand washing sink, for the cleaning and sanitization of all contact surfaces, utensils and equipment.

Solutions used for sanitizing shall not exceed 200 parts per million (ppm) available chlorine, and must be allowed to drain adequately and air-dry. Test strips or other acceptable means shall be utilized to ensure sanitizer strengths comply with manufacturer's directions as outlined in Table 1, below.

Table 1 – Amount of chlorine bleach per gallon of water for a given chlorine concentration¹

<i>Amount of chlorine bleach per gallon of water</i>	<i>Approximate concentration of total chlorine² (ppm)³</i>
1 teaspoon	65
1 tablespoon	200
1 fluid ounce	400
1/4 cup	800
1/2 cup	1600
2/3 cup	2200
3/4 cup	2400
1 cup	3200

1. Assuming 5.25% sodium hypochlorite in chlorine bleach.

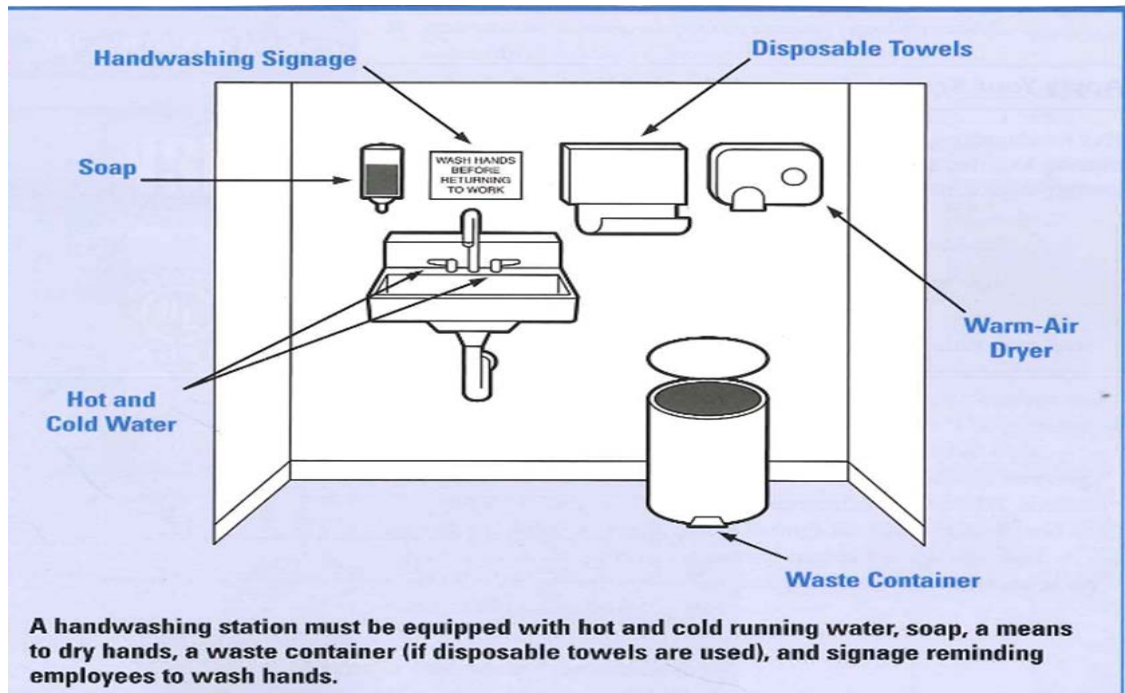
2. Typically present as both hypochlorous acid and hypochlorite ion.

3. ppm = parts per million.

E. *Storage and Handling of Cleaned Portable Equipment and Utensils:* All extractors, tanks and other equipment shall be stored in such a manner that they are properly protected from dust, dirt, rodents, insects or other contaminants. Protective covering shall be on all extractors and storage tanks, except when in use.

4.) **Sanitary Facilities and Controls**

- A. Water Supply: The water supply for the honey processing room shall be from an approved source. Such as a municipal service or a private water supply deemed to be safe as determined by inspection for proper construction of wells or springs, backflow prevention measures and annual microbiological analysis for coliform conducted at a laboratory deemed acceptable by the West Virginia Department of Health and Human Services.
- B. Plumbing: Shall be of adequate size and design to prevent drips or condensate from contaminating honey, equipment, contact surfaces or packaging materials.
- C. Sewage Disposal: Shall be made into an adequate sewage system such as municipal source or disposed of through other adequate means.
- D. Toilet Facilities: Toilet facilities shall be conveniently available but do not need to be inside the honey house. If the toilet room opens directly into areas where honey is exposed the door should be self-closing to prevent airborne contamination, unless an exhaust fan to provide positive air-flow is installed. A sign directing employees to wash their hands before they return to work must be posted.



- E. Hand-washing Facilities: An adequate and convenient sink with hot and cold running water, hand soap, paper towels and a covered refuse receptacle shall be provided which is separate from the equipment and utensil sink. Signs directing employees to wash and sanitize their hands before they start work, after absence from post or duty, or when they become soiled or contaminated should be posted.
- F. Rubbish and Offal Disposal: Waste shall be handled in such a manner as to not to attract insects, rodents, birds or other vermin or create an environmental hazard. It can be from a municipal or private contracted source.

5.) Equipment and Utensils

- A. Construction and Repair of Containers and Equipment: All equipment and utensils shall be designed to be adequately cleanable and properly maintained. Containers and equipment which may come in contact with honey shall be constructed of smooth, nonabsorbent, corrosion-resistant, non-toxic materials safe for their intended use.
- B. Freezers and Refrigerators: If any are used or located in the Honey House they shall be fitted with thermometers within each compartment. Freezers $\leq 0^{\circ}\text{F}$, and refrigerators at $\leq 45^{\circ}\text{F}$.
- C. Instruments: If refractors are used they shall be accurate and adequately maintained.

D. Compressed Air: If utilized the equipment shall contain filters to prevent contamination.

6.) **Processes and Controls**

A. Raw Materials and Other Ingredients: Shall be inspected to ascertain they are clean and suitable for processing into honey. Raw materials shall be washed or cleaned as necessary to remove soil or other contamination. Raw materials shall either not contain levels of microorganisms that may produce disease in humans, or that shall be pasteurized.

B. Manufacturing Operations: Equipment, utensils and finished containers shall be maintained in an acceptable condition. Operation of the facility shall be conducted in such a manner so to protect the honey from contamination during preparing, processing, packaging, storage and distribution. Only food grade containers and closures may be used for packaging honey. Where applicable, containers may require sanitization prior to use. Suitable dispensing/measuring devices shall be used to avoid bare-hand contact with honey. During periods of extracting, processing and bottling, the equipment and the honey house shall be used for these purposes only.

7.) **Warehousing and Distribution**

Storage and transportation shall be under conditions that protect against physical, chemical, and microbial contamination.