



Symptoms/Observations	Probable Cause	Action/Prevention
<ul style="list-style-type: none"> • Brood chamber is light in weight • Large, tight cluster of dead, frozen bees separated from honey • Little or no honey • Bees headfirst in comb • Small patch of brood under cluster 	<p>Starvation</p>	<p>If no disease present, clean and reuse equipment. Shake off dead bees or scrape plastic frames to midrib and return to hive. Small numbers of dead bees in cells can be removed by a healthy colony. Clean bottom board. Cull any frames that are wet, mushy or have decomposing bees in them. Provide ample honey stores in fall (approx. 60-90 lbs.).</p>
<ul style="list-style-type: none"> • Small cluster on sunny side of hive • Ample honey stores • Stunted abdomens, deformed wings; mites visible on bees • Partially emerged brood with tongues extended in lower hive body <p>(Premature death of adult bees reduced critical mass needed for thermoregulation in winter)</p>	<p>Varroa Collapse</p>	<p>Cull old or damaged frames and frames with dead brood. Check for mites spring, summer, and fall. Treat accordingly.</p>
<ul style="list-style-type: none"> • Disproportionate number of small drones in cluster • Drone pupal caps in worker comb • Evidence of queen cells • Absence of brood 	<p>Queen Issues</p>	<p>If no other disease present, equipment can be reused. Follow steps as per "Starvation" above. Cull frames with excessive drone comb.</p>
<ul style="list-style-type: none"> • Acute dysentery • Excessive bee excrement on inner cover, top bars, and front of hive near entrance(s) • Bees may appear bloated and wet 	<p>Nosema apis</p>	<p>Scrape and clean woodenware of excess excrement. Gently wipe off feces with soft cloth using bleach solution of 1 part bleach to 9 parts warm water. Use gloves. Cull frames with excessive amounts of dysentery on surface of comb.</p>
<ul style="list-style-type: none"> • Dysentery • Small cluster • Small patch of brood under top bar of upper hive body 	<p>Nosema ceranae</p>	<p>See above.</p>



Symptoms/Observations	Probable Cause	Action/Prevention
<ul style="list-style-type: none"> • Excessive moisture on inner cover, frames, and hive walls • Water and/or mold on bottom board • Fluffy-white or blue-green mold on outer frames and interior hive walls • Dead bees and debris blocking bottom entrance • No upper entrance 	<p>Moisture</p>	<p>Clean frames, bottom board, and hive bodies prior to reuse. Provide an upper entrance. Use moisture absorbing material above the inner cover. Tilt bottom board for water drainage.</p>
<ul style="list-style-type: none"> • Bees clustered on outside of hive on sunny side • Small cluster; abundant honey • Acute dysentery and/or Nosema • Dead bees in front of hive and on bottom board 	<p>Tracheal Mite</p>	<p>Honey and equipment are safe for reuse. Cull old or damaged frames.</p>
<ul style="list-style-type: none"> • Broken bee parts scattered on inner cover and bottom board, thoraces missing • Trash pile of head, wings, and legs; musky odor • Elongated, irregular, “corkscrew” shaped feces • Damaged combs appear as wax and pollen were shaved off 	<p>Pygmy Shrews</p>	<p>Reduce entrance holes to 3/8” or 1/2” for fall/winter. Replace severely damaged comb.</p>
<ul style="list-style-type: none"> • Mouse nests, chewed comb • Scratches or chew marks on hive • Tracks in snow around hives 	<p>Pests/Other Disturbances</p>	<p>Reevaluate hive location and elevation. Erect fencing, install mouse guards, etc.</p>

Adapted from: “When Disaster Strikes” by Tony Jadczyk

Jadczyk, Tony (April 30, 2011). *When Disaster Strikes*. Retrieved from <http://mainebeekeepers.org/information-for-beekeepers/when-disaster-strikes/>.