

SUGGESTIONS FOR USING HIRONBEC PENDULUMS TO PROTECT TREE SWALLOW NESTS FROM HOUSE SPARROWS

If you have tree swallows facing house sparrow competition for nest boxes, Hironbec Pendulums might help prevent sparrow takeover. We tested these devices in several high-risk situations and found they allowed light-weight tree swallows to defend boxes against heavier house sparrows and to raise their broods safely. Based on our experiences we offer the following suggestions for successful pendulum use.

Attention: For best results mount your pendulum on a box house sparrows have not seen or used before, and place the box in a location where no box has been before.

Box Selection:

- Boxes must be wooden and have flat, vertical fronts.
- Pendulums will not work on boxes with slanted fronts or on cylinders.
- Entrances should be circular and either 1-3/8" or 1-1/2" in diameter. No slots or ovals.
- Boxes should be side-opening or top-opening, not front-opening.
- Roofs should extend out over the front 2-1/2" to 3".
- Boxes should be roomy enough for tree swallows, with floors at least 5" x 5".

Pendulum Functioning:

- Familiarize yourself with your pendulum before you mount it on a box.
- Practice adjusting the weight carefully, making the pendulum more or less tippy.
- Locate the tree swallow balance point arrow.
- Attach the mounting hardware to the box using the instruction stencil provided and a #2 square-tipped screwdriver for the recessed screws.
- Practice attaching the pendulum to the box. However, you do not need to make the final attachment until the day the box is presented to the swallows. Be careful not to over-tighten or strip the mounting screw.

Selecting the Box Location:

- Select a good location in advance.
- Choose a spot where the box will be in reach and daily monitoring will be easy.
- Avoid locations exposed to high winds or frequent crosswinds.
- Plan to face the box east or southeast if possible, away from direct midday sun.
- Avoid shrubbery or wood edges where house wrens could interfere.
- Avoid locations near or within groups of closely-spaced boxes.
- Avoid locations accessible to curious people.

Timing of Box Presentation:

- Do NOT put the pendulum box up in early spring, or if you must, cover it completely with a dark bag or wrap. House sparrows must not be allowed to see it or become attached to it, and must never get a chance to learn to pendulum use.
- Do NOT reveal pendulum boxes until 3-4 weeks after tree swallows have returned.
- After female swallows have spent weeks searching for nest sites, they become ready to nest-build immediately if they find one.
- Once female swallows are fully-motivated to nest-build they learn to pass through pendulums very quickly. This is essential for gaining and keeping box possession.

Preparing Nest Grasses for Female Swallows:

- A female tree swallow can learn pendulum use within 1-3 hours if motivated to bring nest vegetation into the box.
- Supplying lots of small pieces of easy-to-manipulate grass encourages many passages through the pendulum, resulting in fast, efficient learning.
- Gather dead, dry field grasses and cut them into 5"-6" pieces. Remove stiff stems.
- Prepare several large handfuls of grass. You want her to have as much as she needs for her "lesson."

Presenting the Box:

- After tree swallows have been present in your area for several weeks searching for nest sites, select a day for presenting the pendulum box.
- Choose a morning with good weather and little wind, a morning when you can be present for several uninterrupted hours.
- Reveal the box by putting it up or uncovering it.
- Set the pendulum very hard to tip, and attach it to the box.
- Scatter cut grasses loosely on the ground below the box.
- Position yourself in a chair within 100' of the box.
- Your role is very important. You will make the pendulum progressively more sensitive as the female tree swallow learns to pass through it, and you will prevent house sparrow interference as she learns.

Helping Female Tree Swallows Learn Pendulum Use:

- If house sparrows approaches the box during this lesson, scare them away by jumping up, yelling, clapping, waving, and/or charging. House sparrows must not be allowed to interrupt as the female swallow becomes familiar with the pendulum.
- Passing tree swallows should notice the new box, and if they do not have their own nest site yet, they should try to claim the box.
- Both male and female swallows should approach and hang on the pendulum entrance, which should not tip because you have set it hard.
- The female should notice the grasses you've placed on the ground and begin taking them through the pendulum into the box.
- If the female swallow doesn't start to build within 30-60 minutes, STOP HERE, cover or remove the box, and wait a few days before trying this series of steps again.
- After the female has passed through the pendulum 30-40 times, go to the box and make the pendulum somewhat more sensitive by adjusting the weight to the right.
- The female tree swallow should resume gathering nest material, and after she has made another 30 trips or so into the box, adjust the weight still farther to the right.
- Repeat this process until the weight arrow nears the tree swallow balance arrow.
- As the pendulum becomes more sensitive it may tip as the female lands. Don't worry. Females are persistent, and will learn to land properly and pass through, using their bills and heads to pry their way into the box if necessary. You want the pendulum to become as tippy as she can tolerate.
- Keep repeating the practice and adjustment intervals until the weight arrow and swallow arrow are aligned. The pendulum is now fully-sensitized for swallows.
- Once the pendulum is fully-sensitized its tipping action combined with the tree swallows' aggressive nest defense should prevent house sparrow takeovers.
- From now on leave the pendulum fully-sensitized at all times.

What to Expect in the Weeks to Come:

- After additional practice females will zip into boxes.
- Don't worry if male swallows take much longer to learn. Their role is guarding boxes, attacking intruding house sparrows before they can become familiar with pendulums.
- Males will learn pendulum passage eventually, when they become motivated to bring feathers into boxes and to feed nestlings.
- House sparrows appear to realize rather quickly they cannot enter and take over boxes equipped with tippy pendulums and aggressively defended by tree swallows.
- In our tests house sparrow intrusion rates decreased rapidly, and after a week or so sparrows usually ignored pendulum boxes.
- However, we can't say all house sparrows will behave this way. Some may be more persistent and require prolonged defense by the swallows.

Monitoring is Necessary:

- Pendulums should be inspected every day. They aren't things one can set and forget
- Check that pendulums are vertical, tip easily, are not scraping boxes, and passages are aligned with box entrances.
- Make sure adult swallows enter and exit without difficulty.
- Expect to find feather jams. These could reduce pendulum sensitivity or prevent swallow entry. Use tweezers or needle-nosed to clear them.
- Once older nestlings begin waiting in pendulums for parents to bring food, observe from a distance to avoid causing premature fledging.

After Nesting:

- Remove both boxes and pendulums as soon as tree swallows have finished nesting.
- House sparrows remain all year, and must never be allowed to learn pendulum operation or become possessive of boxes.
- Clean out and disinfect boxes.
- Carefully clean pendulum surfaces.
- Place a drop of oil on the pendulum pivot bolt.
- Store pendulums in plastic bags.