



Asian hornet

BUILD A HORNET TRAP





5. Build a hornet trap

Information for the teacher

A hornet trap is a simple tool to catch the Asian hornet. The aim is to reduce the pressure on local pollinators such as honeybees, bumblebees and hoverflies. These traps are not a solution to eradicate the species, but they can make a difference locally if they are used correctly and selectively. In the spring you can encounter queens in your trap and in the summer and autumn it is the workers who fly around.

An effective trap usually consists of a sturdy container (glass jar, bottle or box) with one or more attachments (selective insertion cones) (see figure): funnel-shaped openings with a diameter large enough for a hornet ($\pm 7-8$ mm). Hornets are attracted to a sweet, slightly alcoholic attractant such as syrup or fermented fruit juice. They can easily go in, but find it difficult to find their way out. By using the right attractant and a selective opening, bycatch (such as bees or beetles) is avoided as much as possible.

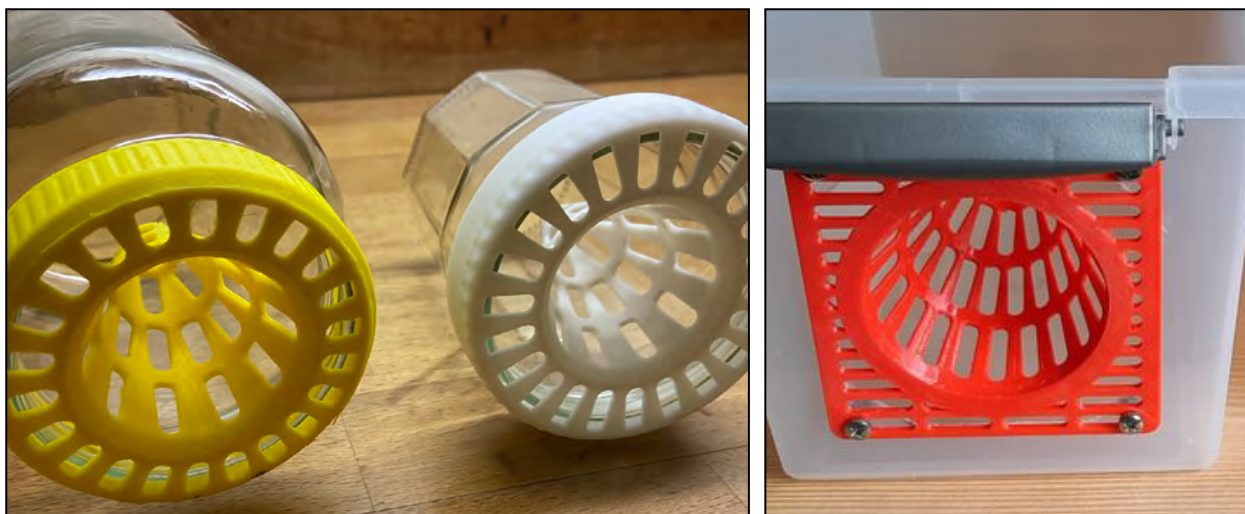


Figure 1: left – glass jar with attachment (screw lid) and right – box with insertion cone

**Are you a school from Limburg? Then, thanks to the support of the Rotary and Rotary Foundation, you have received a selective insertion cone to build your own hornet trap. Simply screw this attachment onto an empty jam or honey jar and put in the attractant as described in the attached worksheet. Do you want to build multiple traps? Then follow the instructions on the worktop to get started with the plug-in cones.*

CITIZEN SCIENCE IN ACTION

Through [MyGardenLab](#), ordinary citizens can participate in scientific research. A good example is the project on spring traps for the Asian hornet. Researchers want to know if catching queens in the spring really helps to have fewer nests later in the year. In addition, they look at whether the traps are selective enough: do they mainly catch hornets, or also beneficial insects such as bees and butterflies?

By allowing many people to participate, scientists receive a large amount of data from all over Flanders. This will help us better understand whether this method is a useful and responsible tool in the fight against the Asian hornet. Why is this important for the classroom?

- Students discover that everyone can contribute to science, not just researchers.
- They see how observations and data collection can make a difference in nature management.
- It makes it clear that solutions for the hornet are not simple, and that research is needed to make the right choices.

LEARNING OBJECTIVES

- STEM – Design, Test, Improve
- Safety – Thoughtful and responsible use of materials



Activity



60 MIN

In short

Pupils design and build a trap against the Asian hornet. They learn how the trap works, why the shape is important, and how to make it so that it is selective. We build the traps in the classroom during the winter months so that they are ready for use in time as soon as the Asian hornets appear. This way pupils can still test their trap, improve it and have everything prepared for the start of the catching season. This assignment also fits perfectly within a STEM afternoon in the cold months, when working outside is less obvious.

Supplies

- 1 plastic box with lid
- Specific funnel-shaped cone to catch hornets: e.g. [Selective hornet cone](#)
- Sharp blade
- Sponge or clay pellets
- Instructions with photos: [Craft idea - The selective trap](#)
- Instructional video: [Making a trap for the Asian hornet](#)

Lesson structure

1. Explanation: how does a trap work? (15 min)

- Show a sample trap or photos of existing models.
- Discuss together:
 - What attracts the hornets? (smell, color, sweet attractant)
 - Why don't they get out of the trap anymore? (opening of $\pm 7-8$ mm)
 - What about rain and wind? Is the trap firm enough?
 - How do we avoid bycatch? (selective opening and correct attractant)
- Have pupils note: What should a good fall definitely have?

2. Design and build phase: Make your own trap (30 min)

- Divide the class into small groups.
- Give each pair a kit (plastic box, rope, cardboard, scissors...).
- Hang the poster (see worksheet 5.1 in attachment).
- Pupils build their own hornet trap based on the poster.
- For making the holes in the trap (cutting or drilling):
 - You know your pupils best. Assess for yourself whether they can do this independently and safely under supervision.
 - If not, have this work done by an adult.
 - Provide clear instructions when using tools.
 - Use protective equipment (gloves, safety glasses) and always work in a stable workplace.
 - Stimulate creativity within the technical requirements.

3. Test phase: Does the design work? (15 min)

- Test the traps outside with water (instead of attractant) to simulate:
 - Is the trap leak-proof?
 - Does it stay stable upright?
 - Is the opening well aimed?
- Check the traps together: What works well? What not?
- Important points of attention:
 - The trap must be sturdy, rainproof, and safe to use outdoors.
 - Hang the trap so that rain does not enter directly. If water does get in, replace the attractant immediately.
 - The opening must be selective: large enough for a hornet, small enough to repel bees and bumblebees. Buy a yellow or red hornet funnel (the Asian hornets are attracted to these colors).
 - Pour bait over clay granules, sponge or bait pot so that insects do not drown.
 - If an Asian hornet is caught: place the trap in the freezer (30 min → stunned, 24 h → dead).



Worksheet 5.1 – Build a hornet trap

DIY ASIAN HORNET TRAP

A trap to capture hornets in a responsible way while reducing the number of bycatch.

Supplies

- A plastic box with a lid
- Specific funnel-shaped cone to catch hornets: e.g. Selective hornet cone
 - Mostly hard plastic
 - Diameter entrance around 8 mm
 - Allows Asian hornets to enter easily while preventing the bigger European hornet from entering
 - The shape of the cone makes it difficult for Asian hornets to leave the trap
- Sharp knife
- Sponge or clay pellets
- Attractant



Attractant

- 1/3 grenadine syrup
- 1/3 white wine
- 1/3 light beer (alcohol deters bees and bumblebees)

Making the trap

- Make an opening in the plastic box where the cone fits into
- Place the cone in the trap with the narrow end facing inwards
- Secure the cone firmly
- Spray a bit of the attractant on a sponge or clay pellets inside the trap

Caution: The insects must not drown inside the attractant

Safety



Place the trap outside the reach of children

Placing the trap and control:

- Choose a sunny, open spot out of rain. Preferably near a known flight route or nest location.
- Place the trap at least on a height of 2 meters and away from flowers (spare the bees)
- Spray the attractant inside the cones (preferably once in the morning and once during lunchtime)
- Check the capture each day
- The best capture period is in Spring (queens) and in Autumn (workers)



Caught!

- After capture of Asian hornet: **place in the freezer**
- **After 30 minutes:** hornet is numbed and can be exterminated by an adult.
- **After 24 hours (in case of a strong queen, it takes more time):** hornet is euthanized
- Report the capture on the platform **Vespa-Watch : Meld een individu**

GoodPlanet is not responsible for any hornet stings or other accidents during the crafting, placement, control or during the usage of the hornet trap.

Everyone working with a trap, does this at it's own risk and takes the necessary precautions.

What to do in case of a sting?

1. Stay calm and walk away until you are at a safe distance from the nest or trap.
2. Only remove the stinger if it is visible (Usually, Asian hornets don't leave behind a stinger)
3. Cool the stinged bodypart immediately with cold water or by adding ice to reduce the swelling.

Severe allergic reaction? Call 112 or let someone bring you to the hospital.

Severe swelling. Get in contact with your doctor for further treatment.