

# Cabbage White (Brassica) Butterfly

## A CAROLINA™ CareSheet

### Immediate Care and Handling

#### Eggs, larva (caterpillar), and chrysalis (chrysalid)

When your egg strips arrive, immediately open the shipping container and inspect your shipment. Prior to the eggs' arrival, you should have sown at least 10 radish or brassica plants (per unit of eggs) on which to hatch them. For best results, we recommend Wisconsin *Fast Plants*®.

#### Egg care

Place the eggs on plant leaves by cutting the egg strip into 4 to 6 smaller sections and placing each section, eggs down, on a separate leaf. Immediately after a larva chews its way out of the egg, it may begin to feed on adjacent eggs. For that reason, enough extra eggs are included in each unit to ensure 5 or 6 successful hatches. The eggs should hatch 48 to 72 hrs after they are placed on plants.

**Important:** If you did not prepare radish or brassica seedlings for the eggs, you can use cabbage leaves. If possible, use pesticide-free, organically grown produce. If not, be sure to remove and discard the outer leaves to eliminate any harmful pesticide residue. Rinse the inner leaves thoroughly with cool water and pat them dry with a clean paper towel. Tear off a few leaves and place them in 3 or 4 plastic containers, such as 12-oz deli cups. Cut your egg strip into smaller pieces and place each piece, eggs down, on one or more cabbage leaves. Larvae develop more slowly on cabbage leaves than they do on potted plants and are more difficult to see. Expect 5 or 6 days to elapse before larvae become visible.

**Note:** *Newly hatched larvae are very small, translucent, and difficult to see. If you think your eggs have not hatched and you cannot see larvae, please do the following before calling us for a replacement. Look for signs of something chewing on your plants and/or for **frass** (larvae excrement). Larvae are usually found on the underside of a leaf. A small hand magnifier can help you find them.*

#### Larvae care

The tiny larvae will crawl off the egg strip and immediately start to feed on the plants. Larvae molt 2 to 3 times in the first week. When molting, larvae seek a dry site, weave a fine carpet of silk, attach to it, and lie quietly. When their exoskeletons split open, they crawl out of them and quickly pump up their new exoskeletons before they become rigid.

The larvae's excrement (frass) dries to fine, black granules, which may be used as fertilizer for additional plants. When using cabbage leaves, you need to carefully remove them and larvae from the dish occasionally to clean out the frass before it encourages mold growth. Also, remove any old, dry leaves and replace them with fresh ones whenever needed.

Once larvae have consumed a potted plant, you can gently transfer them to other plants you have prepared, or to any available brassicas (e.g., cabbage, Brussels sprouts, or broccoli; see the "egg care" section for preparation and setup details). Larvae are tiny and easily injured; so use a small, soft brush to transfer them. After the larvae's 4th instar (12 to 15 days), they are large enough to be transferred using your hands alone.

#### Pupae care

After 18 to 20 days, the larvae begin preparing to pupate. Transition from larva to adult occurs within the

chrysalis during the pupal stage and is known as **metamorphosis**. To prepare for pupa formation, a larva first weaves a strong carpet of silk on the plant or container. (Larvae have silk glands in their anterior and posterior ends.) The larva then weaves a silk belt around its middle and attaches its posterior to the carpet.

The pupa's chrysalis is soft at first. Allow it to harden for several hours, then gently remove the pupa from its attachment site and use double-sided tape to attach it to a piece of paper. Hang the paper inside your butterfly box or cage. Approximately 6 to 7 days after pupa formation, a butterfly should emerge. Newly emerged butterflies hang quietly to allow their wings to expand and harden. Wings usually take 15 minutes to expand, and several hours to harden.

### **Butterfly (adult) care**

Butterflies should be kept at room temperature, 22 to 24° C (72 to 76° F). If you want them to mate and lay eggs, provide light in or near their cage for 18 hours a day. If you are just keeping the butterflies to observe and enjoy, normal room lighting is sufficient.

Sugar, water, minerals, and other nutrients found in floral nectar are the primary food source for adult cabbage white butterflies. Water and energy from sugar are essential. Without them, adult butterflies die in a few days.

An adult butterfly's **proboscis** (an elongated feeding tube that is rolled up or extended by specialized muscles) enables it to take in floral nectar. The length of the extended proboscis varies greatly from species to species, depending on the particular flowers on which a species is adapted to feed.

Your butterflies will quickly seek nectar in flowering Wisconsin *Fast Plants*®. If flowering plants are not available, use the following instructions to make an artificial feeder:

1. Obtain an empty plastic film canister and clean it with a mild solution of 5% household bleach and water. Rinse it **thoroughly** and fill it with warm water.
2. Add 1 teaspoon of sugar, 2 or 3 drops of honey, and 2 drops of yellow food coloring. Stir well.
3. Punch a hole in the canister's lid large enough to easily insert 2 white, ¼" W × 2" L felt wicks.
4. Dip the wicks into the sugar-water solution and then squeeze them out to remove excess solution.
5. Insert the wicks into the hole in the lid, leaving approximately ¾" extending from the top of the lid. Place the lid on the canister. Fold the protruding wicks over toward the opposite sides of the canister to create the 2 "petals" of a flower. The sugar-water solution should be replaced every other day. With proper nutrition, adult butterflies generally live for 1 or 2 weeks, and sometimes for as long as 3 weeks.

**Important:** Per US Department of Agriculture regulations, the cabbage white butterfly cannot be released into the environment at any stage of its life cycle. Instead, use one of the following options:

- Maintain the butterflies in captivity until they die naturally. (Their life span is short, about 2 weeks.)
- Consider saving the dead butterflies in a plastic cup with holes punched in the lid. They are ideal specimens for microscopic examination.
- Humanely euthanize the eggs, larvae, and adults by placing them in a sealed container and freezing them for at least 48 hours.

### **FAQ's**

#### *What are brassica plants?*

Brassicas are members of a large family of flowering plants, many of which are grown for food. Examples include radish, turnip, cabbage, kale, mustard, collards, broccoli, and cauliflower.

*I see butterflies in my garden that look like the cabbage white butterfly. Is this possible?*

Yes, the cabbage white butterfly is found throughout much of North America. It belongs to a family of butterflies that are white, yellow, or orange in color.

*The eggs hatched but the larvae died. What caused this?*

They may have starved. Newly hatched larvae cannot chew through tough plant material as well as older larvae can. Try to start them on young, tender leaves. The humidity also may have been too low. Due to their small size, larvae can dehydrate rather quickly. If you think humidity is a problem, mist the larvae with a very fine spray of dechlorinated, room temperature water. These 2 problems can be related, since larvae get moisture from the food they eat. If they are able to feed properly, humidity will seldom be a problem.

**Problems?** We hope not, but if so contact us. We want you to have a good experience.

**Orders and replacements:** 800.334.5551 then select Customer Service

**Technical Support and Questions:** [caresheets@carolina.com](mailto:caresheets@carolina.com)



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