

Cause-and-Effect Essay

INTRODUCTION

Provocative question

Topic established

Thesis (causes and effects)

BODY

Background: defining terms

**The Birds, the Bees, and the Flying Foxes:
Pollinators in Jeopardy**

What if you could never again have a cold glass of cranberry juice? How about a piece of blueberry pie, or an apple, or even a steaming cup of hot chocolate? Each one of these foods owes its existence to creatures called pollinators—animals like bees, birds, butterflies, and bats that help plants reproduce. You might think that bees, bats, and butterflies are all too common. However, these pollinators are increasingly falling prey to a handful of threats that, if unchecked, could extinguish a third of the world's food supply and cause worldwide environmental damage.

Pollination is the process that couples plants' male and female sex cells, allowing plants to reproduce. Different plants pollinate in different ways. Some scatter pollen on the wind or in the water, but most use colorful flowers or other attractors to get insects, birds, or small mammals to do the work. Once a pollinator enters the pollen-heavy part of a plant, it becomes covered with pollen, usually while it drinks the plant's sweet, energy-rich nectar. When the pollinator moves on to the next flower, the pollen it carries is brushed onto the stigma of the new flower. There, the grain of pollen germinates, sending a tube containing the male sex cell into the ovary. The male cell finds the ovule and fertilizes the egg inside of it. The ovule grows into a seed, and the ovary becomes the fruit, which allows the plant's reproductive cycle to

Cause-and-Effect Essay *continued*

Cause 1

Support

Defining terms

Support

Cause 2

Support

begin again (Schwartz 61).

Today, many plant species are being placed under the threat of extinction by a decrease in the population of pollinators. One reason for the decreasing number of pollinators is the destruction of their habitats. Pollinating creatures are literally starved to death when land is cleared to harvest trees, to cultivate new crops, or to build dwellings for humans. When people clear land and remove vegetation, nectar corridors—the migratory paths followed by pollinators—are destroyed. The destruction of these corridors depletes populations of bats, moths, and butterflies (Ingram et al.). Migratory homes are also destroyed as land is developed. For example, monarch butterflies spend their summers in the fir trees of central Mexico. However, many of these fir trees are being cut to meet a growing demand for timber. As a result, the butterfly population decreases (Schwartz 66-68). Many pollinators' permanent habitats are also being encroached upon. In Orange County, California, bees are moved out of the way to make room for new houses whose residents don't want swarms of bees buzzing near their backyards (Luo).

The pollinator population is also falling victim to certain pesticides that, although they are applied to control nonpollinating insects, end up killing pollinators, too. When forests in New Brunswick, Canada, were sprayed with pesticides to control an outbreak of spruce budworm, not only did the budworms die, but sweat bees and bumblebees died as

Cause-and-Effect Essay *continued*

Cause 3

Support

Effect 1

Support

Causal chain

well. The bees had tended the blueberry fields nearby, and, after the spraying, blueberry yields dropped by 75 percent and remained low for years (Schwartz 64-66).

Infestations of other insects also contribute to the pollination problem. Honeybees pollinate about 15 percent of the world's crops, but two recent mite infestations have killed large numbers of bees. Some of the remaining honeybee colonies have been overtaken by fiercer, less-productive Africanized honeybees, also known as killer bees (Schwartz 64). In the United States, the recent arrival of killer bees has caused many people to fear all honeybees, including the gentle ones that people depend on for food. This fear of bees also contributes to the pollination crisis, as people remove or destroy colonies of bees to eliminate the perceived threat of attacks by aggressive bees (Luo).

The effects of a dwindling population of pollinators extend far beyond your local supermarket, although that's where you might notice it first. All over the world, farmers are currently battling serious crop failures caused by increasing pollination problems. The production of blueberries, cherries, pumpkins, cashew nuts, and brazil nuts has been threatened by the loss of pollinators (Pearce). In Britain, a declining bee population is harming the production of blackberries, strawberries, pears, cherries, and oilseed plants (Rowe). In other areas, tropical fruit trees are suffering because of declining bat populations (Pearce).

The economic strain of failing fruit crops is largely being felt by small

Cause-and-Effect Essay *continued*

Effect 2

Support

CONCLUSION

Return to thesis

farmers. A smaller number of honeybees means higher farm production costs. One estimate claims that honeybee loss alone costs American farmers 5.7 billion dollars a year (Pearce). Higher costs for farmers create higher costs for consumers, resulting in more expensive produce.

Although poor pollination has harmed the production of many fruits, vegetables, and nuts, you can still find just about any conventional produce you want at your local market. However, it is becoming more and more difficult to find hundreds of species of animals and wild plants. Dwindling pollinator populations are putting numerous species in the endangered category. According to Ingram et al., "over 100 species of birds and mammals [that are pollinators] ... are already listed as endangered." On some small Pacific islands, the loss of flying foxes could lead to the extinction of fruit trees, which, in turn, could lead to the extinction of mammals that eat the fruit (Pearce). It is also reported that, in degraded forest land areas of Costa Rica, the number of wild bee species has dropped from seventy to thirty-seven in only fourteen years (Ingram et al). Many varieties of wild plants are also endangered. In Iowa, wildflowers are becoming rare; in Japan, it's the primrose (Ingram et al.). These are just two of a long list of examples.

Fortunately, it's not too late to reverse some of the damage done to the pollinator population, and to ease the threat it poses to the world's food supply. Nectar corridors can be preserved, habitats can be restored, and farmers can nurture bee colonies by learning how to manage

Cause-and-Effect Essay *continued*

Call to action

pesticide use. You can help, too, by filling your yard or garden space with plants that host pollinators as well as plants that feed them. You can also assist by purchasing organic produce, which is grown without pesticides. Most of all, you can help by understanding how important it is to preserve the diversity of pollinators. As ecologist Gary Nabhan recently told Smithsonian (64), "You need pollinators....[They] are directly responsible for one out of every three bites you take."

Cause-and-Effect Essay *continued*

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Cause-and-Effect Essay

Definition

A **cause-and-effect essay** is an attempt to explain the causes and effects of an event or situation. A good cause-and-effect essay clearly explains the relationship between actions and reactions in a specific context. This type of essay is particularly effective for examining complex scientific topics.

Many cause-and-effect essays use the structure illustrated in the framework below. Print this framework and use it as a guide when you write your own cause-and-effect essay.

Framework

Directions and Explanations

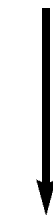
Introduction

- Pique the readers' interest.
- Establish the situation or topic.
- Present the thesis statement.

Grab your readers' attention Your introduction should make readers want to keep reading your essay. Try starting with a thought-provoking question, an interesting quotation, or an anecdote.

Set up your topic Give your readers background information, including technical definitions, to help them understand the causal relationship you will explain.

State your thesis Write a statement that clearly states the focus of your essay. Indicate whether you will discuss causes, effects, or both.



Body

- State and support with evidence the first cause or effect.
- State and support with evidence the second cause or effect, and so on.

Organize clearly Make sure your analysis progresses in logical order. If you are analyzing a causal chain, use chronological order. Otherwise, use order of importance—from most important to least important or vice versa.

Make your case Provide evidence that supports each cause or effect. Use facts, examples, statistics, quotations, anecdotes, or expert opinions as evidence.



Conclusion

- Reinforce the thesis.
- Tie the ideas together with a summary.
- Leave the reader with a final thought.

Finish strongly Summarize your analysis and restate your thesis statement. You also might end with a call for your readers to take action.