

Questions 12-22 are based on the following passage and supplementary material.

Vanishing Honeybees: A Threat to Global Agriculture

Honeybees play an important role in the agriculture industry by pollinating crops. An October 2006 study found that as much as one-third of global agriculture depends on animal pollination, including honeybee **12** pollination—to increase crop output. The importance of bees **13** highlights the potentially disastrous affects of an emerging, unexplained crisis: entire colonies of honeybees are dying off without warning.

14 They know it as colony collapse disorder (CCD), this phenomenon will have a detrimental impact on global agriculture if its causes and solutions are not determined. Since the emergence of CCD around 2006, bee mortality rates have **15** exceeded 25 percent of the population each winter. There was one sign of hope: during the 2010–2012 winter seasons, bee mortality rates decreased slightly, and beekeepers speculated that the colonies would recover. Yet in the winter of 2012–2013, the **16** portion of the bee population lost fell nearly 10 percent in the United States, with a loss of 31 percent of the colonies that pollinate crops.

12

- A) NO CHANGE
- B) pollination: this is
- C) pollination,
- D) pollination;

13

- A) NO CHANGE
- B) highlights the potentially disastrous effects
- C) highlight the potentially disastrous effects
- D) highlight the potentially disastrous affects

14

- A) NO CHANGE
- B) Known as colony
- C) It is known as colony
- D) Colony

15

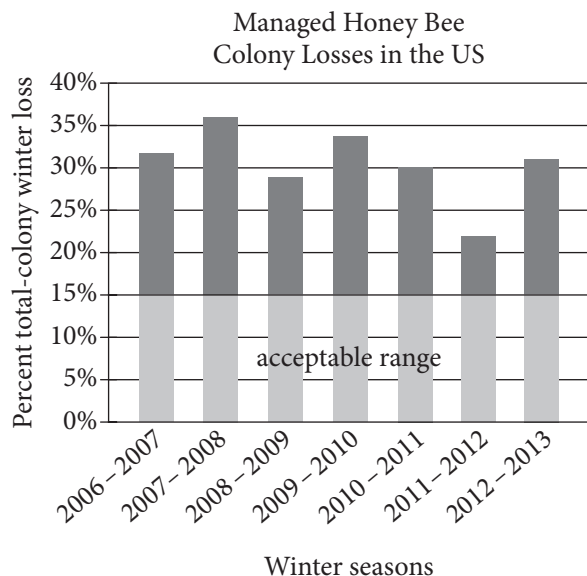
Which choice offers the most accurate interpretation of the data in the chart?

- A) NO CHANGE
- B) been above the acceptable range.
- C) not changed noticeably from year to year.
- D) greatly increased every year.

16

Which choice offers an accurate interpretation of the data in the chart?

- A) NO CHANGE
- B) portion of bees lost was double what it had been the previous year, rising to
- C) number of losses, which had fallen within the acceptable range the previous year, rose to
- D) portion of total colonies lost rose almost 10 percentage points, with a loss of



Adapted from Dennis van Engelsdorp et al., "Preliminary Results: Honey Bee Colony Losses in the United States, Winter 2012-2013." ©2013 by the Bee Informed Partnership.

17 Studies have offered several possible reasons that bees are vanishing. One reason that is often cited is the use of pesticides called neonicotinoids, which are absorbed by plants and linger much longer than do topical pesticides. **18** Chemicals such as herbicides and fungicides may also play a role, contaminating the pollen that bees typically feed on and inhibiting healthy insect maturation.

17

Which choice most smoothly and effectively introduces the writer's discussion of studies of CCD in this paragraph?

- A) NO CHANGE
- B) Bees are vanishing, and according to studies there are several possible reasons for this trend.
- C) Several possible reasons, offered by studies, may explain why bees are vanishing.
- D) DELETE the underlined sentence.

18

At this point, the writer is considering adding the following sentence.

Prolonged exposure to neonicotinoids has been shown to increase bees' vulnerability to disease and parasitic mites.

Should the writer make this addition here?

- A) Yes, because it provides support for the claim made in the previous sentence.
- B) Yes, because it introduces a new idea that will become important later in the passage.
- C) No, because it would be better placed elsewhere in the passage.
- D) No, because it contradicts the main idea of the passage.

Given the role that honeybees play in agriculture, the impact of this loss of hives on fruit, vegetable, seed, and nut crops **19** is not to be scoffed at. A reduction in bee numbers leads to less pollination, which in turn leads to smaller harvests and higher food prices. Some farmers have resorted to renting hives from beekeepers to pollinate their **20** crops; when there is a shortage of bees this being an expensive proposition. Other farmers have increased **21** they're dependence on costly hand-pollination by human workers. Furthermore, there may be sociological repercussions. Agroecologist Alexandra-Maria Klein has suggested that rising produce prices could lead to an increase in obesity as people turn to cheaper, less wholesome fare.

Though the precise causes of CCD are yet unclear, some commonsense measures may be taken. A decrease in the use of certain pesticides, herbicides, and fungicides, as well as greater attention to the nutrition, habitat, and genetic diversity of managed hives, could begin a shift in a favorable direction. **22**

19

- A) NO CHANGE
- B) is a pretty big deal.
- C) can't be put on the back burner.
- D) cannot be ignored.

20

- A) NO CHANGE
- B) crops, this is an expensive proposition when there is a shortage of bees.
- C) crops, an expensive proposition when there is a shortage of bees.
- D) crops; an expensive proposition when there is a shortage of bees.

21

- A) NO CHANGE
- B) there
- C) their
- D) its

22

The writer wants a conclusion that addresses the future of efforts to combat CCD. Which choice results in the passage having the most appropriate concluding sentence?

- A) NO CHANGE
- B) Still, bee colonies have experienced such devastating losses that the consequences of the issue have been felt worldwide.
- C) Although CCD is a relatively new phenomenon, scientists have been studying other aspects of honeybees for over a century.
- D) Genetic variation in bee colonies generally improves bees' productivity, disease resistance, and ability to regulate body temperature.