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阅读原文

https://www.100test.com/kao_ti2020/126/2021_2022_GMAT_E9_98_85_E8_AF_BB_c89_126571.htm Although numbers of animals in a given region may fluctuate from year to year, the fluctuations are often temporary and, over long periods, trivial. Scientists have advanced three theories of population control to (5) account for this relative constancy. The first theory attributes a relatively constant population to periodic climatic catastrophes that decimate populations with such frequency as to prevent them from exceeding some particular limit. In the case of (10) small organisms with short life cycles, climatic changes need not be catastrophic: normal seasonal changes in photoperiod (daily amount of sunlight), for example, can govern population growth. This theory the density-independent view asserts that climatic factors (15) exert the same regulatory effect on population regardless of the number of individuals in a region. A second theory argues that population growth is primarily density-dependent that is, the rate of growth of a population in a region decreases as the (20) number of animals increases. The mechanisms that manage regulation may vary. For example, as numbers increase, the food supply would probably diminish, which would increase mortality. In addition, as Lotka and Volterra have shown, predators can find prey more (25) easily in high-density populations. Other regulators include physiological control mechanisms: for example. Christian and Davis have demonstrated how the crowding that results from a rise in numbers

may bring about hormonal changes in the pituitary and adrenal (30) glands that in turn may regulate population by lowering sexual activity and inhibiting sexual maturation. There is evidence that these effects may persist for three generations in the absence of the original provocation. One challenge for density-dependent theorists is to (35) develop models that would allow the precise prediction of the effects of crowding. A third theory, proposed by Wynne-Edwards and termed "epideictic," argues that organisms have evolved a "code" in the form of social or epideictic behavior (40) displays, such as winter-roosting aggregations or group vocalizing. such codes provide organisms with information on population size in a region so that they can, if necessary, exercise reproductive restraint. However, Wynne-Edwards theory, linking animal social behavior (45) and population control, has been challenged, with some justification, by several studies. 1. The primary purpose of the passage is to (A) argue against those scientists who maintain that animal populations tend to fluctuate (B) compare and contrast the density-dependent and epideictic theories of population control (C) provide example of some of the ways in which animals exercise reproductive restraint to control their own numbers (D) suggests that theories of population control that concentrate on the social behavior of animals are more open to debate than are theories that do not (E) summarize a number of scientific theories that attempt to explain why animal populations do not exceed certain limits 2. It can be inferred from the passage that proponents of the density-dependent theory of population control have not yet been

able to (A) use their theory to explain the population growth of organisms with short life cycles (B) reproduce the results of the study of Christian and Davis (C) explain adequately why the numbers of a population can increase as the populations rate of growth decreases (D) make sufficiently accurate predictions about the effects of crowding (E) demonstrate how predator populations are themselves regulated 3. Which of the following, if true, would best support the density-dependent theory of population control as it is described in the passage? (A) As the number of foxes in Minnesota decrease, the growth rate of this population of foxes begins of increase. (B) As the number of woodpeckers in Vermont decreases, the growth rate of this population of woodpeckers also begins to decrease. (C) As the number of prairie dogs in Oklahoma increases, the growth rate of this population of prairie dogs also begins to increase. (D) After the number of beavers in Tennessee decreases, the number of predators of these beavers begins to increase. (E) After the number of eagles in Montana decreases, the food supply of this population of eagles also begins to decrease. 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com