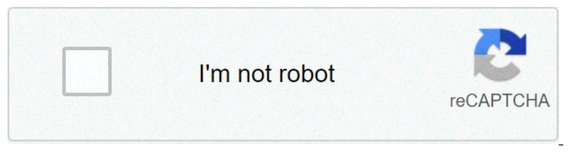

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Which of the following statements is true for sexual reproduction in plants

Many people find that sexual reproduction is fundamental for the evolution because it always results in the production of genetically varied descendancy. In fact, but sex does not always increase variation. Imagine, for example, the simple case of a single gene contributing to the height in a diplet organism; Here, individuals with genotype AA are the shortest, those with the genotype AA are intermittally height, and those with the AA genotype are taller (Figure 1). Now, because of the argument, imagine that the shortest individuals can hide with security, the higher individuals are too large to be eaten by predators, and intermediate height individuals are heavily predated. Between the few lucky organisms that survive to reproduce, there will be a large variation of height, with an ability of high individuals and abundance of short individuals. What sex accomplish in this case? Here, mating would bring the return population in Hardy-Weinberg proportions, producing less descendants at the extremes of height and more descendants in the middle. This is, sex would reduce the variation in height, in relation to a population that reproduces asexually.figure 1: a variability, was constructed by selecting, © Decreased by Sex.In the top panel, an initial population of hardy-weinberg proportions with a 40 frequency% of an allele is subject to selection with skills given by curve the full line . Once the aptitude surface displays positive curvature, the result of the selection of a population with a large degree of variability at the height (middle panel). Asexual reproduction in such a population a preserve this (lower left) variation, but sexued reproduction with random mating brings back to population in proportion of Hardy-Weinberg and reduces the variation (lower right corner). This example illustrates the fact that sex does not even increase variation. This example is excessively simplified, but serves to illustrate a general point: select can build more variation than one might expect in a population in which genes are well mixed. In such cases, sex reduces variation by mixing together genes from different parents. This problem arises in the case of a single gene, whenever the heterozygotes are less apt, in a mother, than the homozygotes. (In this case, the need for heterozygotes does not have the slightest skill ;. Instead, their only fitness should be close to that of homozygous less dock) the problem also arises in more complicated cases, involving multiple genes whenever these genes interact in such a way that intermediate genotypes (for example, + - + - + -) are inferior inferior to extreme genotypes (here, + + + + + + - - - - - - -). In general, the mathematical models have confirmed that the selection is based more variation than expected from randomly combined genes always fitness surfaces are positive with genotypes intermediates having less than expected fitness. In such cases, sexual reproduction and recombination destroy the genetic associations that selected was constructed and therefore result in a decrease (instead of increasing) Variation between offspring. The term "epistasia" is used to describe such genes interactions, and cases where intermediate genotypes are less fit than expected (based on the aptitude of the most extreme genotypes) are referred to as "positive epistians." (As a side tman, the curvature of the fitness surface must be measured on a multiplicative scale, so that if the aptitude of + people + + + + was 2 and the aptitude of - - - - -individuals was 1, then the aptitude of + - + - + - individuals could be expected to be a 2A 1 = 1,41) there are several methods and processes involved in reproduction The Sexual Ofan, Different Plants .. Many of the structures associated with sexual reproduction in plants are valuable commodities for humans (think fruits, berries and An equal number of them are Banefulan ¢ â € (Think seasonal allergies). In this section, WEA will learn only as the sexual reproduction process in in occurs. Learning objectives describe the process of autocololine and cross pollination identify common multi-pollination methods define the double fertilization describe the process that leads to the development of a seed describe the process that leads to the development of a fruit identify different fruits of fruits and dispersion of seeds in angiosperms, the pollution is defined as the placement or transfer of PLENN from previous to the stigma of the same flower or other flower. In gymnosperms, pollination involves transferring of the male cone to the feminine cone. After transfer, the throb germinates to form the pipe tube and the sperm to fertilize the egg. The pollination was well studied since the Poca de Gregor Mendel. Mendel successfully held himself, as well as the cross-pollution in the peas of the garden, while studying how the characteristics were transmitted from a generation to the next. Today's cultures are the result of plant creation, which employs artificial selection to produce current cultivars. A case at the point is today's corn, which is the result of years of reproduction that began with his ancestor, theosinte. The teosinta that the ancient Mayans originally began to cultivate had small seeds - very different from the ears of relatively giant corn. Curiously, although these two plants seem to be entirely different, the genetic difference between them is minor. The pollination takes two forms: self-pollination and cross pollution. Self-pollution occurs when the anther powder is deposited in the stigma of the same flower, or another flower in the same plant. Crossed pollination is the PLAN transfer of the anther of a flower to the stigma of another flower in a different subject of the same spy. Self-pollution occurs in flowers where stamen and mature carpel at the same time, and are positioned so that the pin can land in the flower stigma. This mass of pollination does not require a plant investment to provide neutt and pollen as food for pollinators. Explore this interactive website to review self-pollution and cross pollination. Vivid sports are designed to ensure the survival of your progeny; Those who fail themselves are extinct. Genatic diversity is therefore necessary so that in the change in environmental or stress conditions some of the progernies can survive. Autopollinization leads to plant production with less genetic diversity, since the genetic material of the same plant is used to form gametes and eventually zygote. In contrast, cross pollination "or crossing" leads to greater genetic diversity because microgametopy and megagametopy are derived from different plants. As the cross-pollution allows for genetic diversity, plants have developed many ways to avoid self-pollination. In some sports, the pallet and the ripe ovary at different times. These flowers make the pollination almost impossible. At the moment the powder matures and was poured, the stigma of this flower is mature and can only be pollinated by the pallet of another flower. Some flowers developed fansical characteristics that prevent self-pollination. The plummet is a flower. The plants evolved two types of flowers with antail differences and stigma length: the pin-eyed flower has an anthers positioned at the point of the pipe pipe medium, and the stigma of thrum eye flowers is also located at the point Half. Insects easily pollinate crusaders as they seek the no-ctar at the bottom of the pipe pipe. This phenomenon is also known as heterostyly. Many plants such as cucumber, have men's and feminine flowers located in different parts of the plant, making the self-pollution difficult. Still other sports, male and female flowers are supported in different plants (dioecious). All these are barriers to Therefore, plants depend on pollinators to transfer pollen. Most pollinators are biopic agents, such as (Like bees, flies and butterflies), bats, birds and other animals. Other plants sports are pollinated by abiptical agents such as wind and water. METHOD OF POLINISTION POLINISTION BY INSETS FIGURE 1. Insects such as bees, are important pollination agents. (Said: Jon Sullivan Work Modification) Bees are perhaps the most important pollinator of many garden plants and most commercial fruit trees (Figure 1). The most common species of bees are angry and bees. As bees can not see the red color, the flowers pollinated by the bee usually have shades of blue, yellow or other colors. The bees collect powder or not rich in energy for their survival and energy needs. They visit flowers that are open during the day, are brilliantly colorful, have a strong aroma or perfume, and have a tubular shape, typically with the presence of a guide of Não CTAR. A Não CTAR guide includes regions on the flower pieces that are visible only for bees, not human beings; Helps guide bees to the center of the flower, thus making the pollination process more efficient. The pipe sticks for the fuzzy hair of the bees, and when the bee visits another flower, some of the pollen are transferred to the second flower. Recently, there were many reports on the duplication of the population of bees. Many flowers will remain not pollinated and do not endure seeds if the bees disappear. The impact on commercial producers can be devastating. Many flies are attracted to flowers that have a decadent smell or a rotten meat odor. These flowers, which produce no ctar, usually have masants, like brown or purple. They are found in the flower of corpsaver or voodoo larrio (amorphophallus), Dragon Arum (dracunculus) and carnitous flower (Staplia, Rafflesia). NÃ © ctar provides energy, while the pallet provides protein. Wasps are also important insect pollinators and pollinate many figures of Figs. Figure 2 A corn spire would be unclassed from a nocturnal blossoming gaura plant. (Said: Juan Lopez, USDA ARS) Butterflies, like the monarch, pollinate many garden flowers and wild flowers, which usually occur in clusters. These flowers are brightly colored, have a strong fragrance, they are open during the day and have guides of Não Ctar to facilitate access to NCAR. The pallet is picked up and loaded in the butterfly members. Moths, on the other hand, pollinate flowers during the late afternoon and night. The flowers pollinated by traces are pale or white and flat are flat, allowing the maripes to rise. A well-studied example of a pollinated trait plant is the Yucca plant, which is pollinated by the yucca moth. The shape of the flower and trait have adapted to allow successful pollination. The deposits of the PLENE tracing in the sticky stigma for fertilization to occur later. The feminine trait also depicient eggs on the ovary. To the eggs develop in larvae, they obtain flower food and developing seeds. Thus, both the insect and the flower benefits from each other in this symbiological relationship. Corn corner moth and the gaura plant have a similar relationship (Figure 2). Pollination by bats in the traits and deserts, bats are often the nocturnal flower pollinators such as Agave, Guava and Morning Glory. The flowers are usually large and white or light colored; So they can be distinguished from the dark environment at night. The flowers have a strong, fruity or musky fragrance and produce large amounts of NCAR. They are naturally large and wide-mouthed to accommodate the bat's head. As the bats seek the non-CTAR, their faces and heads are covered with the pollen, which is then transferred to the next flower. Pollination by bird figure 3. Hummingbirds have adaptions that allow you to reach the NeCar of certain tubular flowers. Lori Branham) Many spaces of small birds, such as hummingbird (Figure 3) and the birds of the sun, are pollinating for plants like orchildren and other wildflowers. Flowers visited by birds are usually resistant and are they are In such a way that it allows the birds to remain near the flower without getting their wings entangled in the present flowers. The flower usually has a curved tubular shape, which allows access to the bird's beak. Brightly colored flowers, which are open during the day are pollinated by birds. As a bird looks for herself rich in energy, the pallet is deposited in the head and the bird's neck and is then transferred to the next flower you visit. Banks are known to determine the range of extinct plants, collecting and identifying the pollen from 200-year-old country samples from the same site. Pollination by the wind figure. A person hits a pine pine. Most sports of coniferous, and many angiosperms such as gramins, lips and oaks, are pollinated by the wind. The pine cones brown and seeds, while the blossoms of angiosperms pollinated by the wind are usually green, small, can have small or not and produce large quantities of PLEN. Contrary to the typical flowers pollinated by insects, the flowers adapted to the pollution by the wind do not produce no ctar or perfume. In spies pollinated by the wind, the microsporanga leaves the flower, and, as the wind blows, the light powder is â € â €