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C_4 Photosynthesis

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EDITORIAL NOTE

Compared to C_3 systems, C_4 systems generally maintain a lower tiny guide. C_4 syndrome has been widely studied in evolution C_4. Although the stomata have been designed for a long time belonging to the C_4 syndrome, it is not yet clear for the stomatic evolution along the road to C_4. The stomatal model was examined in gender up an evolutionary C_4 model contains species in different evolutionary phases of C_3 to the C_4 photosynthesis, which can minimize spurious relations. Comparative methods, transgenic experiments and seminnevitre analysis have been carried out to test the molecular bases are the basis of the anatomical difference. The evolution of C_3 to species C_4 Intermediate species were accompanied by a rather acute step by step trend in the characteristics of the stomata. The initial alteration verified in type II and the drastic change in species similar to C_4. Stays in the evolution of the C_4 have always evolved towards a lower and wider direction. SD dominated maximum stomata conductance throughout the evolutionary process C_4. Evolution C_4 selected the reduction of the expression to decrease G_{smax}. Our analysis stressed the characteristics of the stomata of the current developing model, and provided road information, the mechanism and role of states that evolve along the path to C_4. It is believed that plants C_4 are gradually evolved C_3 intermediate forms that have been found in some species. The intermediate species with characteristics between C_3 and C_4 was confirmed as a true intermediate phase in the modeling of phylogenetics and biochemistry, which, in accordance with the experimental studies described above, above all in the kind of sheath. In particular more intermediate species that completely cover the different phases and phases of the C_4, C_3 IE, C_3C_4 type I, C_3C_4 Type II, C_4 Like and C_4. The large number of species of intermediate flavor and evapaclating is the youngest kind of evolution C_4, suggests that the evolution of the C_4 continues experimentation. A close relationship between flavors can minimize the impact of non-local rates, generally manifests itself in its similar morphologies and a habitat environment. These causes the sex of evapaclating to the preferred object for research on the evolutionary process C_3 to C_4, and in fact it was a large number of studies on this physiology, structure, biochemistry and molecule. The current evolutionary model is based mainly on these studies in flavors, which carry out events such as the main model system include evolution C_4. The current process of evolution C_4 implies many characteristics.

In summary, the beam sheath cells and the density of the vein begin to be developed before the start of metabolism C_4. Glycine Decarbyylase (GDC) is transferred from Mesophill cells to the pod cells of a package, therefore, the photorespiration acts as a modest CO_2 concentration mechanism and promotes the formation of Metabolism C_4.

Since stomatal development is controlled by a molecular signaling network composed of many interacting components, in theory, any genes controlling stomatal development could be potentially selected to alter stomatal pattern affecting g_{smax} during the emergence of C_4 photosynthesis. In fact, changing the stomata pattern under different conditions does indeed choose different molecular pathways.