

Karst World Natural Heritage Site of the South China Karst has taken effective measures and been effectively protected.

5.2. Village communities in World Heritage properties and buffer zones face conservation and development issues. How to develop is a major challenge. Yaoshan Township in the buffer zone of Libo World Natural Heritage Site, relying on the outstanding natural heritage resources and local unique culture, has explored five "becomes" to achieve sustainable development of the village.

5.3. World heritage protection can provide high-quality natural resources, tourist resources and policy resources for the development of village communities, and the development of village communities can feed the protection of World natural heritage in terms of raising the awareness of local residents, improving the economic level, improving the appearance of villages and other aspects.

A SINGLE LATENT PLANT GROWTH-PROMOTING ENDOPHYTE BH46 ENHANCES *HOUTTUYNIA CORDATA* THUNB. YIELD AND QUALITY

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Plant growth-promoting endophytes (PGPE) can effectively regulate plant growth and metabolism. The regulation is modulated by metabolic signals, and the resulting metabolites can have considerable effects on the plant yield and quality. Here, tissue culture *Houttuynia cordata* Thunb., was inoculated with *Rhizobium* sp. (BH46) to determine the effect of BH46 on *H. cordata* growth and metabolism, and elucidate associated regulatory mechanisms. The results revealed that BH46 metabolized indole-3-acetic acid and induced 1-aminocyclopropane-1-carboxylate deaminase to decrease ethylene metabolism. Host peroxidase synthesis MPK3/MPK6 genes were significantly downregulated, whereas eight genes associated with auxins, cytokinins, abscisic acid, jasmonic acid, and antioxidant enzymes were significantly upregulated. Eight genes associated with flavonoid biosynthesis were significantly upregulated, with the CPY75B1 gene regulating the production of rutin and quercitrin and the HCT gene directly regulating the production of chlorogenic acid. Therefore, BH46 influences metabolic signals in *H. cordata* to modulate its growth and metabolism, in turn, enhancing yield and quality of *H. cordata*.

AN ASSEMBLED BACTERIAL COMMUNITY ASSOCIATED WITH *ARTEMISIA ANNUA* L. CAUSES PLANT PROTECTION AGAINST A PATHOGENIC FUNGUS

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The microorganisms associated with a plant influence its growth and fitness. These microorganisms accumulate on the aerial and root surfaces of plants, as well as within the plants, as endophytes, although how the interaction between microorganisms protects the plant from pathogens is still little understood. In the current study, the impact of assembled