

投影寻踪分类模型在作物补偿效应评价中的应用 Comprehensive Evaluation on Compensatory Effects of Water Recovery after Drought Based on Projection Pursuit Classification Model

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摘要: 为了解决作物旱后复水补偿效应评价和优选的不确定性, 提高补偿效应评价模型的分辨率, 提出了投影寻踪分类模型, 并采用变异和动态信息素更新蚁群算法寻找最优的投影方向, 用最佳投影方向信息研究各评价指标对补偿效应的贡献率, 发现光合速率的大小直接反应了补偿生长的能力, 是影响补偿效应的关键因子, 与以往研究结论相符, 且适度胁迫复水后第5天表现出的补偿效应最佳。An effective projection pursuit classification model is suggested to evaluate compensatory effects of water recovery after drought in order to avoid the uncertainty of the evaluation and the optimization, and to improve the accuracy of the evaluating model. It adopts an ant colony algorithm based on mutation and dynamic pheromone updating to find the best projective direction, and then uses the best projective direction to calculate the contribution of each evaluation index to the compensatory effects. The test results showed that photosynthetic rate directly reflected the capacity of compensatory growth. Thus it is a critical factor for compensatory effects, which conformed to the previous studies. The optimal compensatory effects appeared in the fifth day after appropriate rewatering.

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