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Popular Article

## Orphan Crops: Unsung Heroes in the Battle Against Climate Change

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In the relentless pursuit of combating climate change, researchers are turning their attention to a group of overlooked heroes- orphan crops. These humble and often neglected plants are emerging as key players in the fight against environmental degradation, with recent data and findings shedding light on their significant impact. Orphan crops refer to a diverse group of plants that have been traditionally overlooked by mainstream agriculture in favor of more commercially viable alternatives. However, these crops are proving to be resilient in the face of climate change, offering a ray of hope for sustainable food production and environmental conservation.

A recent study conducted by the International Center for Agricultural Research in the Dry Areas (ICARDA) reveals that orphan crops play a crucial role in enhancing agricultural resilience. These crops, which include millets, sorghum, and various indigenous vegetables, have shown remarkable adaptability to changing climatic conditions, making them invaluable assets in the era of global warming. One of the key findings from the research is that orphan crops exhibit a higher tolerance to extreme weather events such as droughts and heatwaves. As climate change continues to disrupt traditional agricultural patterns, these crops provide a lifeline for farmers facing unpredictable and harsh conditions. Their ability to thrive in challenging environments not only ensures food security but also contributes to the overall stability of agricultural systems.

Moreover, orphan crops have a unique ability to sequester carbon dioxide from the atmosphere, acting as natural carbon sinks. Unlike some conventional crops that contribute to greenhouse gas emissions, these plants have a lower carbon footprint and actively aid in mitigating



climate change. A comparative analysis conducted by the Food and Agriculture Organization (FAO) indicates that incorporating orphan crops into farming systems can lead to a significant reduction in greenhouse gas emissions, making them an eco-friendly choice for sustainable agriculture (Mabaudhi *et al.*, 2019).



In addition to their environmental benefits, orphan crops have proven nutritional advantages. Orphan crops have a history with indigenous people and are generally accepted among the rural populace for their nutritional and health values as well as adaptation to prevailing local stresses and growing conditions (Kamei *et al.*, 2016)

Although orphan crops thrive in infertile sections of farms and are typically grown in marginal agricultural areas, they remain crucial for ensuring food security. These crops fulfill the caloric needs of populations residing in regions where staple crops like maize, rice, and wheat struggle to grow efficiently. Additionally, orphan crops demand minimal inputs, resulting in lower production costs for farmers compared to those associated with major food crops.

### **Future Potential**

Despite their numerous benefits, orphan crops face significant challenges, including limited research funding and a lack of market demand. The agricultural industry has long been dominated by a handful of major crops, leaving orphan crops on the fringes of mainstream attention. Efforts are underway to raise awareness about the potential of orphan crops and promote their inclusion in mainstream agriculture. Initiatives such as farmer training programs, seed banks, and market



development projects aim to empower communities to harness the benefits of these resilient plants. Governments and international organizations are being urged to incorporate orphan crops into their agricultural policies to ensure a more sustainable and climate-resilient future.

In conclusion, orphan crops are emerging as unsung heroes in the battle against climate change. Their resilience, environmental benefits, nutritional richness, and potential to enhance biodiversity make them indispensable allies in the quest for sustainable agriculture. As the world grapples with the challenges of a changing climate, it is crucial to recognize and harness the potential of these overlooked crops for the benefit of current and future generations. The time has come to elevate orphan crops from the sidelines and celebrate their role as key contributors to a more resilient and sustainable food system.

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