

Rice paddies in the desert? How China is creating productive farmland and growing 'seawater rice' using heat-tolerant biotech crops

In a bid to finally ensure that nobody ever needs to go hungry in China again, researchers there have been hard at work developing "seawater rice". Such a crop would allow farmers to grow a staple food on lands that were previously toxic to rice or too barren to be used — and ensure the country's food security.

Output of this hybrid species has more than doubled in the last three years, explain researchers from the Qingdao Saline-Alkali Tolerant Rice Research and Development Center in the eastern province of Shandong. Last year, seawater rice could yield an average crop of 8.8 tons per hectare, which was increased to over 10 tons per hectare in 2022, according to the state-run *Science and Technology Daily*.

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In 2018, Yuan's team successfully demonstrated the crop in the deserts of Dubai, where they achieved an average yield of 7.5 tons per hectare.

Seawater rice was developed by tweaking the interactions between two genes present in conventional rice. This produces a grain that is much more able to tolerate heat and chemical stressors (such as high salinity). According to previous research, these genes can be spliced into other major crops, such as maize or wheat, with similar effects.

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