

Heat Tolerant Rice: How ALORA Achieved a 2555% Yield Increase Under Extreme Heat

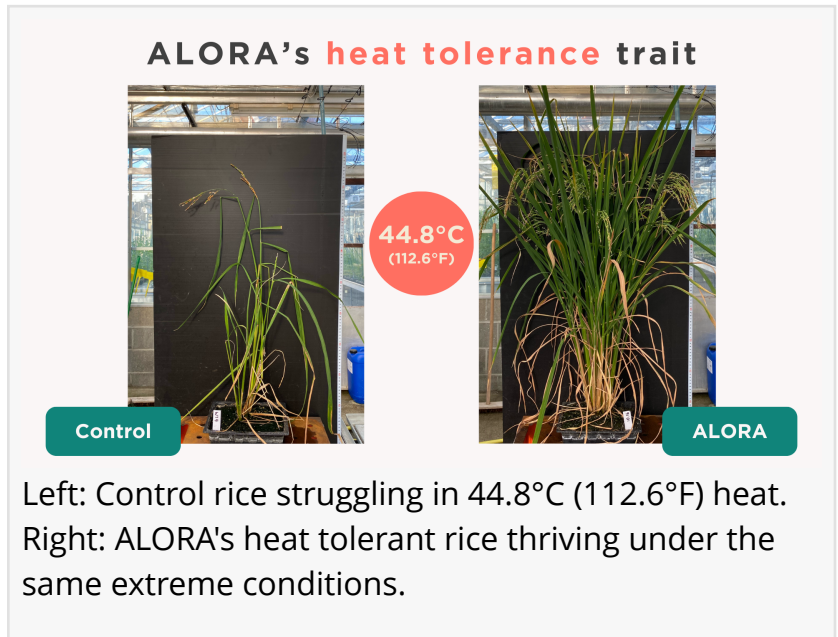
ALORA's groundbreaking heat-tolerance trait in rice has delivered an unprecedented 2555% yield increase under extreme heat with temperatures exceeding 40°C.

LONDON, UNITED KINGDOM, January 28, 2025 /EINPresswire.com/ -- ALORA, a Norwich-based startup, proudly announces a game-changing breakthrough in crop resilience: its heat-tolerance trait has propelled rice yields to unprecedented levels under extreme growing conditions. In trials with daytime temperatures above 40°C (104°F) and nighttime temperatures exceeding 32°C (89.6°F), ALORA's rice varieties achieved a staggering 2555% yield increase over control lines, with an extrapolated yield of up to 11 tonnes per hectare.

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In a world where a 1°C rise cuts rice yields by 10%, ALORA's 2555% yield increase under extreme heat isn't just a breakthrough—it's a necessity. Agriculture must adapt, and ALORA is leading the way.”

Luke Young, CEO and Co-Founder



Left: Control rice struggling in 44.8°C (112.6°F) heat. Right: ALORA's heat tolerant rice thriving under the same extreme conditions.

This pioneering development addresses a global crisis as rising temperatures threaten food security. With rice yields typically declining by up to 10% for every 1°C above optimal, and regions experiencing yield losses as high as 90%, ALORA's innovation offers a beacon of hope. Importantly, this non-GMO solution uses ALORA's proprietary editing technique to not only preserve yield but also maintains grain quality, achieving optimal amylose content and increased milling efficiency.

The ALORA Mission: From Vision to Reality

ALORA was founded in 2019 with a singular vision: to create a world free from hunger. Co-founder and CEO Luke

Young, set out to reimagine agriculture from the ground up by designing the world's first truly

sustainable food system. Together with co-founder Rory Hornby, he launched a bold plan to create ocean agriculture — salt-tolerant crops on floating oceanic farms without relying on freshwater or chemical pesticides to grow.

For both Luke and Rory growing up in agricultural communities, the value and threat to agriculture was stark and apparent. Luke recalls a defining moment in 2018, gazing out at the vast ocean from a flight to Norway and realizing its untapped potential to feed the world. This insight laid the foundation for ALORA, ideated in the UK, built in San Francisco, and now thrives as a global leader in climate-resilient agriculture, with operations in Norwich, UK, and Oviedo, Florida.

“Our mission is simple yet ambitious: end world hunger, safeguard agriculture from climate change, and create a truly sustainable food system—ocean agriculture,” says Luke Young. “Our new heat-tolerance trait is a testament to our belief that innovation can outpace crisis.”

Building on its salt-tolerance breakthroughs, ALORA has expanded to tackle the multifaceted threats of climate change, including heat stress in traditional crops. By combining visionary thinking with scientific rigor, ALORA continues to push the boundaries of what’s possible in sustainable farming—turning big ideas into tangible solutions for a warming world.

Why Heat-Tolerance Matters

The past decade has been the hottest on record, with devastating heatwaves, such as those in Japan, Australia, and USA, decimating crop yields and quality. Temperatures above 28°C (82.4°F) lead to starch buildup in rice grains, increasing chalkiness and lowering quality. As global food systems face unprecedented challenges, ALORA’s traits offer a lifeline for farmers worldwide, ensuring resilient yields and quality grain under the harshest conditions.

A Global Impact

ALORA’s heat-tolerant rice, including market-ready lines VENUS-4 and VENUS-5, is poised to redefine sustainable agriculture. Future developments, such as VENUS-2 and VENUS-3 in the 2025 Climate Ready pipeline, promise even greater resilience and yield potential coming early next year.

About ALORA

Founded in 2019, ALORA is at the forefront of sustainable agriculture, specializing in climate-resilient traits and revolutionary ocean agriculture systems. With roots in the UK and launch operations in San Francisco, ALORA now operates internationally from innovation hubs in Norwich, UK, and Oviedo, Florida. Driven by a mission to end world hunger and protect agriculture against climate change, ALORA continues to break new ground with cutting-edge solutions that redefine the future of farming.

To find out more visit: www.heatproofharvest.com

For partnerships or inquiries, contact:

✉ wave@alora.world

✉ LinkedIn: Luke Young

For more information on ALORA: www.alora.world

Luke Young

Alora Innovations UK Inc.

[email us here](#)

Visit us on social media:

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