# Article information:

High-temperature stress suppresses allene oxide cyclase 2 and causes male sterility in cotton by disrupting jasmonic acid signaling - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S2214514122001301>

# Article summary:

1. High temperature stress suppresses the expression of the jasmonic acid (JA) biosynthesis gene allene oxide cyclase 2 (GhAOC2), reducing JA content and causing male sterility in cotton.

2. Exogenous application of methyl jasmonate (MeJA) to early buds reversed anther sterility, while ROS signals were reduced in anthers at the anther dehiscence stage.

3. Manipulating JA metabolism may increase male fertility in cotton under HT conditions.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “High-temperature stress suppresses allene oxide cyclase 2 and causes male sterility in cotton by disrupting jasmonic acid signaling” is a well-researched and reliable source of information on the effects of high temperature stress on cotton plants. The authors provide a comprehensive overview of the role of GhAOC2 in JA biosynthesis and its potential contribution to the anther response to HT, as well as exogenous application of MeJA as a strategy for increasing male fertility in cotton under HT conditions. The article is based on extensive research, including experiments with gene knockout cotton plants using CRISPR/Cas9 system, exogenous application of MeJA to early mutant buds, and analysis of ROS signals in ADS anthers.

The article does not appear to be biased or one-sided; it presents both sides equally and provides evidence for its claims. It also does not contain any promotional content or partiality towards any particular point of view. Furthermore, possible risks are noted throughout the article, such as excessive ROS accumulation leading to male sterility.

The only potential issue with this article is that it does not explore any counterarguments or missing points of consideration regarding its claims or findings. However, this does not detract from its overall trustworthiness and reliability as a source of information on high temperature stress in cotton plants.

# Topics for further research:

* High temperature stress effects on cotton
* Jasmonic acid signaling pathways
* CRISPR/Cas9 gene knockout cotton plants
* Exogenous application of MeJA
* ROS accumulation and male sterility
* Counterarguments to high temperature stress in cotton

# Report location:

<https://www.fullpicture.app/item/534453f17fff72bb02f9c130f3a123e3>