# Article information:

Nutrition vs association: plant defenses are altered by arbuscular mycorrhizal fungi association not by nutritional provisioning alone | BMC Plant Biology | Full Text  
<https://bmcplantbiol.biomedcentral.com/articles/10.1186/s12870-022-03795-3>

# Article summary:

1. Arbuscularmycorrhizal fungi (AMF) can improve nutrient acquisition and herbivore resistance in crops, but the mechanisms by which AMF influence plant defense remain unknown.

2. This study tested whether changes in plant defenses are regulated by nutritional provisioning alone or the response of plant to AMF associations.

3. The results showed that AMF drove the defense response of maize by increasing the expression of mpi and pr5, suggesting that the mechanism through which AMF upregulate defenses is not solely via increased N or P plant nutrition.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it provides a detailed overview of research conducted to investigate how arbuscularmycorrhizal fungi (AMF) can influence plant defense against herbivores. The authors provide evidence for their claims, such as citing previous studies that have shown that AMF increase uptake of multiple nutrients, including nitrogen and phosphorous, as well as citing studies that have shown that maize defense compounds are altered by AMF colonization of plant roots and fertilization. Furthermore, they provide data from their own experiment to support their conclusions.

However, there are some potential biases in the article that should be noted. For example, the authors do not explore any counterarguments to their hypothesis or discuss any potential risks associated with using AMF to improve plant defense against herbivores. Additionally, they do not present both sides equally; instead they focus primarily on the benefits of using AMF for improved plant defense without discussing any potential drawbacks or limitations associated with this approach. Finally, there is some promotional content in the article; for example, they state that cropping systems that promote AMF can be more sustainable and productive than conventional systems without providing evidence to support this claim.

In conclusion, while this article is generally reliable and trustworthy overall, there are some potential biases and missing points of consideration that should be noted when evaluating its trustworthiness and reliability.

# Topics for further research:

* Potential risks associated with using AMF
* Drawbacks of using AMF for plant defense
* Limitations of AMF for plant defense
* Evidence for sustainability of AMF cropping systems
* Counterarguments to AMF for plant defense
* Impact of AMF on plant defense compounds

# Report location:

<https://www.fullpicture.app/item/48fb697a5b01163002552a47318b8f41>