

# Researchers discover potential new paths for plant-based bioproducts

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Plant science researchers at the University of North Texas have found potential new pathways for the creation of plant-based bioproducts. The research is outlined in a new article in the journal *Nature Plants*.

The UNT research team was working as part of the US Department of Energy's BioEnergy Science Center coordinated by the Oak Ridge National Laboratory.

The team looked into the roles of enzymes that convert [amino acids](#) into lignin in *Brachypodium*, a fast-growing model grass with a sequenced genome. Lignin is a substance that makes [plants](#) woody and firm, and, although it is an impediment to the processing of feedstocks for biofuels, it can be used to create a variety of bioproducts, including materials such as carbon fiber.

"As we studied the way different amino acids are converted to lignin, we found that there may be a new and unrecognized [pathway](#) for making lignin in grasses," said UNT Distinguished Research Professor Richard Dixon. "A new pathway means potential for engineering more lignin in plants that don't possess that pathway, as well as an additional way of modifying [lignin](#) in grasses. This provides new opportunities for the synthesis of high value, high volume bioproducts that could significantly improve the economics of the bioenergy industry."

Dixon is the director of UNT's BioDiscovery Institute, one of UNT's Institutes of Research Excellence.

**More information:** Jaime Barros et al, Role of bifunctional ammonia-lyase in grass cell wall biosynthesis, *Nature Plants* (2016). [DOI: 10.1038/nplants.2016.50](https://doi.org/10.1038/nplants.2016.50)

Provided by University of North Texas

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