

Altering Secondary Metabolism to Reduce Lignin Content

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Categories:

- Agriculture
- Chemical Engineering

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- Agbiotech
- Agriculture
- Biofuels
- Chemical Engineering

Phenylpropanoid compounds have a wide variety of functions in plants. These compounds contribute to plant growth and development and are important components of the secondary cell wall. Recent studies have found that phenylpropanoid compounds are beneficial toward human health, creating an estrogen-like activity.

Purdue University researchers have cloned the gene REF8, allowing for better understanding of how phenylpropanoid metabolism is regulated and effected by environment. Possible applications include improving forage digestibility, decreasing the dihydroxy phenols in plants that cause browning reactions, and screening for inhibitors of C3H that would have value as herbicides. The technology can decrease lignin biosynthesis for the production of biofuels.

Advantages:

- Affecting lignin content in plants
- Improving forage digestibility
- Modification of other aspects of secondary metabolism in plants

Potential Applications:

- Biofuels
- Agricultural industry

People:

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