

Potential industrial and agricultural uses of echinacea trump health claims

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This is an Echinacea plant. Credit: School of Science at IUPUI

Echinacea has been used for hundreds of years as an herbal remedy to prevent or treat colds, and today it is among the most commonly used herbal medicines in North America. However, in spite of its popularity, studies of the effect of the herb on the body's immune system are conflicting.

Now researchers from the School of Science at Indiana University-Purdue University Indianapolis are investigating the possibility that [Echinacea](#) has other potentially more important uses - not in health, but in the fields of petrochemicals and agriculture.

Using the cutting edge tools of the newest "-omics" - metabolomics and

transcriptomics - Robert Minto, PhD., associate professor of chemistry in the School of Science, is studying the [lipid metabolism](#) of the herb, bioprospecting the plant's genes and enzymes.

"The goal of our National Science Foundation (NSF) funded project is to gain a better understanding of this plant, which in spite of its popularity, has not received the basic scientific scrutiny of so-called model plants like corn, rice and soy. We are identifying and mapping the complex biosynthetic [metabolic pathways](#), especially the alkamide pathway. We hope that this work will lead us to a better understanding of the plant's metabolic processes with wide-ranging application in such diverse fields as lubrication and design of disease-resistant plants," said Minto, who directs the IUPUI Signature Center for Membrane Bioscience.

According to Minto, the study of the unique metabolic characteristics of Echinacea and other natural plants should translate into the creation of novel bio-derived compounds.

Provided by Indiana University School of Medicine

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