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Dr. David Mann is a post-doctoral research associate in the Plant Sciences Department, working under the direction of Dr. Neal Stewart, at the University of Tennessee. He received his Ph. D. in Microbiology at the University of Tennessee. His current research interests include developing biotechnological tools for genetically improving switchgrass as a bioenergy crop.

Patents

- Patent pending.

Contact

The University of Tennessee Research Foundation (UTRF) is a non-profit corporation responsible for commercializing University of Tennessee technologies and for supporting University research. UTRF is seeking parties interested in learning more about this technology and in exploring possible research and/or commercialization arrangements.

If after reviewing this abstract you would like further information, please phone us at 865.974.1882 or send an email to utrfinnovations@tennessee.edu and reference PD 09058. We will get in touch with you as soon as possible to make the appropriate arrangements, including discussions with the inventor. We will also be glad to discuss possible avenues for commercialization of this technology or answer any questions you may have regarding UTRF.

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Identification of a Novel Promoter for Tissue Culture Transformation

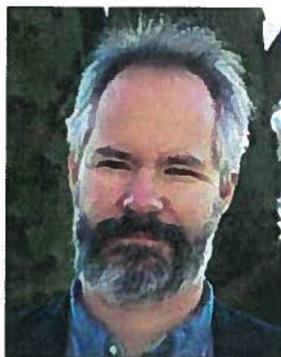
The Technology

Researchers at the University of Tennessee have discovered a method to induce strong expression of any gene conferring resistance to pathogens, herbicides, salt, cold, drought, or insects by using two newly identified and recently characterized switchgrass promoters. These promoters stimulate constitutive expression with 2x and 4x greater activity than maize ubiquitin 1 (*ZmUbi1*) and CaMV 35S, respectively, driving gene expression in all tissues and organs of switchgrass. These novel components have the potential to be integrated into all monocot transformation systems, especially where multiple gene activation is needed. Interestingly, these promoters have a broad spectrum of taxonomic activity with additional expression capabilities in other monocots, dicots and ferns.

Benefits:

- Plant genetic engineering tools with broad taxonomic bioactivity.
- Can be integrated into a variety of tissue culture transformation systems.

The Inventors



Dr. Neal Stewart is the director of the Tennessee Plant Research Center at the University of Tennessee. He is a professor of plant sciences and holds the Ivan Racheff Chair of Excellence in plant molecular genetics. The Stewart Lab's research spans plant biotechnology, genomics, and ecology. He has been performing agricultural biotechnology and biotechnology risk assessment research since 1994.

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