



**Plant Pathology and
Crop Physiology
Department**

Disclosure 1012

Improved Gene Transfer Vector

Inventors: Norimoto Murai, Seokhyun Lee

Description:

AgCenter scientists have invented a new gene transfer vector. The vector minimizes size and maximizes biological activity to make more copies of a desired gene. The genes can be more effectively transferred into the DNA of a crop plant to make it have desired characteristics, such as insect and herbicide resistance. The vector can also be used to transfer a desired gene to human and animal cells, fungi, bacteria and other organisms. Experiments with this vector have shown that it makes *Escherichia coli* and *Agrobacterium tumefaciens* produce almost four times more transformations into cells with desired characteristics than commercially available vectors.

Advantages:

- Higher DNA yield
- More efficient transfer
- Easier to use
- Smaller size

Commercial Uses:

- Transferring genes to crop plants, human, animals, fungi, bacteria and other organisms

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