

## **New protein biopesticide**

Eden Bioscience, the United States, has developed a protein-based biopesticide. 'Messenger' activates gene expression to induce the plant's natural defences to pathogens and then quickly degrades, leaving no detectable residue. The product reportedly improves the quality, yield and overall plant performance. Most importantly this product is likely to be an environmentally friendly substitute for chemical pesticides. This product has been approved by the Environment Protection Agency.

Messenger is based on Harpin protein obtained from *Erwinia amylovora*. Harpin protein induces the systemic acquired resistance (SAR) pathway acting as a kind of 'immune system booster'. Application of Messenger leads to suppression of bacteria, fungi, viruses, insects, mites and nematodes. Messenger is manufactured by engineering the harpin gene into a weakened strain of *E. coli*. (Website: <http://www.biotechsupport service.com>)